96 Pages

Pandora

64

Science Fiction Science Fantasy Magazine

IN THIS ISSUE:

Stardrive

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Science Fiction Science Fantasy Magazine

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STARDRIVE

The Lexman Spacedrive gave man the stars—but at a fantastic price.

Interstellar exploration, colonization, and trade became things of reality. The benefits to Earth were enormous. But because of the Fitzgerald Contraction, a man who shipped out to space could never live a normal life on Earth again.

Traveling at speeds close to that of light, spacemen lived at an accelerated pace. A nine-year trip to Alpha Centauri and back seemed to take only six weeks to men on a spaceship. When they returned, their friends and relatives had aged enormously in comparison, old customs had changed, even the language was different.

So they did the only thing they could do. They formed a guild of Spacers, and lived their entire lives on the starships, raised their families there, and never set foot outside their own Enclave during their landings on Earth. They grew to despise Earthers, and the Earthers grew to despise them in turn. There was no logical reason for it, except that they were—different. That was enough.

But not all Starmen liked being different. Alan Donnell loved space, and the ship, and life aboard it. His father, Captain of the VALHALLA, lived for nothing but the traditions of the Spacers. But his twin brother, Steve, couldn't stand it, and so he jumped ship.

It had happened only a few weeks before, as Alan experienced it. For Steve, though, he knew it would have

been nine years in the past. Now, while Alan was still only 17 years old, Steve would be 26!

Thinking about it got under Alan's skin, finally. The bond between twins is a strong one, and Alan couldn't stand to see it broken so abruptly and permanently. There were other things, too. If Alan remained on the VALHALLA, he'd have to marry one of the girls of the ship, and the choice of those his own age was pitifully small. And above all else, he was convinced that the secret of the Cavour Hyperdrive was hidden somewhere on Earth—the Cavour Hyperdrive, that would enable man to leap interstellar distances almost instantaneously, and bring an end to the sharp differences between Earthers and Spacers.

These forces worked quietly within him—and suddenly, without really meaning to, Alan in turn jumped ship and remained on Earth!

There were many times when he regretted it. He found Earth a bewildering and utterly hostile place. To stay alive, he had to play a ruthless game—and he couldn't even find anyone to tell him the rules. Within the first few hours, he came dangerously close to being murdered and then to being thrown in jail. He had no clues to the whereabouts of Steve, and couldn't even be sure his nine-years-older twin brother was still alive. And the Cavour Hyperdrive was the merest will-o'-the-wisp, dancing wildly before him in his dreams.

Somehow, he survived. It wasn't easy, and he didn't do it without serious sacrifices. He became a professional gambler, and almost became a drug addict. He became involved in a monstrous criminal syndicate, knowing that no criminal could possibly escape punishment. He betrayed the few friends he had, and fought furiously against everyone and everything he encountered.

He thought longingly, often, of the VALHALLA, and his lost life aboard her. But he never completely lost hope.

PROLOGUE

The Lexman Spacedrive was only the second most important theoretical accomplishment of the exciting years at the dawn of the Space Age, yet it changed all human history and forever altered the pattern of sociocultural development on Earth.

Yet it was only the second most important discovery.

The Cavour Hyperdrive unquestionably would have held first rank in any historical assessment, had the Cavour Hyperdrive ever reached practical use. The Lexman Spacedrive allows mankind to reach Alpha Centauri, the closest star with habitable planets, in approximately four and a half years. The Cavour Hyperdrive—if it ever really existed—would have brought Alpha C within virtual instantaneous access.

But James Hudson Cavour had been one of those tragic men whose personalities negate the value of their work. A solitary, cantankerous, opinionated individual—a crank, in short—he with-

drew from humanity to develop the hyperspace drive, announcing at periodic intervals that he was approaching success.

A final enigmatic bulletin in the year 2570 indicated to some that Cavour had achieved his goal or was on the verge of achieving it; others, less sympathetic, interpreted his last message as a madman's wild boast. It made little difference which interpretation was accepted. James Hudson Cavour was never heard from again.

A hard core of passionate believers insisted that he had developed a faster-than-light drive, that he had succeeded in giving mankind an instantaneous approach to the stars. But they, like Cavour himself, were laughed down, and the stars remained distant.

Distant—but not unreachable. The Lexman Spacedrive saw to that.

Lexman and his associates had developed their ionic drive in 2337, after decades of research. It permitted man to approach, but not to exceed, the theoretical limiting velocity of the universe: the speed of light.

Ships powered by the Lexman Spacedrive could travel at speeds just slightly less than the top velocity of 186,000 miles per second. For the first time, the stars were within man's grasp.

The trip was slow. Even at such fantastic velocities as the Lexman Spacedrive allowed, it took nine years for a ship to reach even the nearest of stars, stop, and return; a distant star such as Bellatrix required a journey lasting two hundred fifteen years each way. But even this was an improvement over the relatively crude spacedrives then in use, which made a journey from Earth to Pluto last for many months and one to the stars almost unthinkable.

The Lexman Spacedrive worked many changes. It gave man the stars. It brought strange creatures to Earth, strange products, strange languages.

But one necessary factor was involved in slower-than-light interstellar travel, one which the Cavour drive would have averted: the Fitzgerald Contraction. Time aboard the great starships that lanced through the void was contracted; the nine-year trip to Alpha Centauri and back seemed to last only six weeks to the men on the ship, thanks to the strange mathematical effects of interstellar travel at high—but not infinite—speeds.

The results were curious, and in some cases tragic. A crew that had aged only six weeks would return to find that Earth had grown nine years older. Customs had changed; new slang words made language unintelligible.

The inevitable development was the rise of a guild of Spacers, men who spent their lives flashing between the suns of the universe and who had little or nothing to do with the planet-bound Earthers left behind. Spacer and Earther, held apart forever by the inexorable mathematics of the Fitzgerald Contraction, came to regard each other with a bitter sort of distaste.

The centuries passed—and the changes worked by the coming of the Lexman Spacedrive became more pro-

nounced. Only a faster-than-light spacedrive could break down the ever-widening gulf between Earther and Spacer—and the faster-than-light drive remained as unattainable a dream as it had been in the days of James Hudson Cavour.

The sound of the morning alarm rang out, four loud hard clear gong-clangs, and all over the great starship Valhalla the men of the Crew rolled out of their bunks to begin another day. The great ship had travelled silently through the endless night of space while they slept, bringing them closer and closer to the mother world, Earth. The Valhalla was on the return leg of a journey to Alpha Centauri.

But one man aboard the starship had not waited for the morning alarm. For Alan Donnell the day had begun several hours before. Restless, unable to sleep, he had quietly slipped from his cabin in the fore section, where the unmarried Crewmen lived, and had headed forward to the main viewscreen, in order to stare at the green planet growing steadily larger just ahead.

He stood with his arms folded, a tall red-headed figure, long-legged, a little on the thin side. Today was his seventeenth birthday.

Alan adjusted the fine controls on the viewscreen and brought Earth into sharper focus. He tried to pick out the continents on the planet below, struggling to remember his old history lessons. Tutor Henrich would not be proud of him, he thought.

That's South America down there, he decided, after rejecting the notion that it might be Africa. They had pretty much the same shape, and it was so hard to remember what Earth's continents looked like when there were so many other worlds. But that's South America. And so that's North America just above it. The place where I was born.

Then the 0800 alarm went off, the four commanding gongs that Alan always heard as It's! Time! Wake! Up! The starship began to stir into life. As Alan drew out his Tally and prepared to click off the start of a new day, he felt a strong hand firmly grasp his shoulder.

"Morning, son."

Alan turned from the viewscreen. He saw the tall, gaunt figure of his father standing behind him. His father—and the Valhalla's captain.

"Good rising, Captain."

Captain Donnell eyed him curiously. "You've been up a while, Alan. I can tell. Is there something wrong?"

"Just not sleepy, that's all," Alan said.

"You look troubled about something."

"No, Dad—I'm not," he lied. To cover his confusion he turned his attention to the little plastic gadget he held in his hand—the Tally. He punched the stud; the register whirred and came to life.

He watched as the reading changed. The black-on-yellow dials slid forward from Year 16 Day 365 to Year 17 Day 1.

As the numbers dropped into place his father said, "It's your birthday, is it? Let it be a happy one!"

"Thanks, Dad. You know, it'll feel fine to have a birthday on Earth!"

The Captain nodded. "It's always good to come home, even if we'll have to leave again soon. And this will be the first time you've celebrated your birthday on your native world in—three hundred years, Alan."

Grinning, Alan thought, Three hundred? No, not really. Out loud he said, "You know that's not right, Dad. Not three hundred years. Just seventeen." He looked out at the slowly-spinning green globe of Earth.

"When on Earth, do as the Earthers do," the Captain said. "That's an old proverb of that planet out there. The main vault of the computer files says you were born in 3576, unless I forget. And if you ask any Earther what year this is he'll tell you it's 3876. 35763876—that's three hundred years, no?" His eyes twinkled.

"Stop playing games with me, Dad." Alan held forth his Tally. "It doesn't matter what the computer files say. Right here it says Year 17 Day 1, and that's what I'm going by. Who cares what year it is on Earth? This is my world!"

"I know, Alan."

Together they moved away from the viewscreen; it was time for breakfast, and the second gongs were sounding. "I'm just teasing, son. But that's the sort of thing you'll be up against if you leave the Starmen's Enclave—the way your brother did."

Alan frowned and his stomach went cold. He wished the unpleasant topic of his brother had not come up. "You think there's any chance Steve will come back, this time down? Will we be in port long enough for him to find us?"

Captain Donnell's face clouded. "We're going to be on Earth for almost a week," he said in a suddenly harsh voice. "That's ample time for Steve to rejoin us, if he cares to. But I don't imagine he'll care to. And I don't know if I want very much to have him back."

He paused outside the handsomely-panelled door of his private cabin, one hand on the thumb-plate that controlled entrance. His lips were set in a tight thin line. "And remember this, Alan," he said. "Steve's not your twin brother any more. You're only seventeen, and he's almost twenty-six. He'll never be your twin again."

With sudden warmth the captain squeezed his son's arm. "Well, better get up there to eat, Alan. This is going to be a busy day for all of us."

He turned and went into the cabin.

Alan moved along the wide corridor of the great ship toward the mess hall in Section C, thinking about his brother. It had been only about six weeks before, when the Valhalla had made its last previous stop on Earth, that Steve had decided to jump ship.

The Valhalla's schedule had called for them to spend two days on Earth and then leave for Alpha Centauri with a load of colonists for Alpha C IV. A starship's time is always scheduled far in advance, with bookings planned sometimes for decades Earthtime by the Galactic Trade Commission.

When blastoff time came for the

Valhalla, Steve had not reported back from the Starmen's Enclave where all Spacers lived during in-port stays.

Alan's memories of the scene were still sharp. Captain Donnell had been conducting check-off, making sure all members of the Crew had reported back and were aboard. This was a vital procedure; in case anyone were accidentally left behind, it would mean permanent separation from his friends and family.

He had reached the name Donnell, Steve. No answer came. Captain Donnell called his name a second time, then a third. A tense silence prevailed in the Common Room of the starship, where the Crew was assembled.

Finally Alan made himself break the angry silence. "He's not here, Dad. And he's not coming back," he said in a hesitant voice. And then he had had to explain to his father the whole story of his unruly, aggressive twin brother's plan to jump ship—and how Steve had tried to persuade him to leave the Valhalla too.

Steve had been weary of the endless shuttling from star to star, of forever ferrying colonists from one place to another without ever standing on the solid ground of a planet yourself for more than a few days here, a week there.

Alan had felt tired of it too—they all did, at some time or another—but he did not share his twin's rebellious nature, and he had not gone over the hill with Steve.

Alan remembered his father's hard, grim expression as he had been told the story. Captain Donnell's reaction had been curt, immediate, and thoroughly typical: he had nodded, closed the roll book, and turned to Art Kandin, the Valhalla's First Officer and the Captain's second-in-command.

"Remove Crewman Donnell from the roster," he had snapped. "All other hands are on board. Prepare for blastoff."

Within the hour the flaming jets of the Valhalla's planetary drive had lifted the great ship from Earth. They had left immediately for Alpha Centauri, four and a half light-years away. The round trip had taken the Valhalla just six weeks.

During those six weeks, better than nine years had passed on Earth.

Alan Donnell was seventeen years old.

His twin brother Steve was now twenty-six.

* * * * * "Happy rising, Alan," called a high, sharp voice as he headed past the blue-painted handholds of Gravity Deck 12 on his way toward the mess hall.

Startled, he glanced up, and then snorted in disgust as he saw who had hailed him. It was Judy Collier, a thin, stringy-haired girl of about fourteen whose family had joined the Crew some five ship-years back. The Colliers were still virtual newcomers to the tight group on the ship—the family units tended to remain solid and self-contained—but they had managed to fit in pretty well by now.

"Going to eat?" she asked.

"Right enough," said Alan, continu-

ing to walk down the plastifoam-lined corridor. She tagged along a step or two behind him.

"Today's your birthday, isn't it?"

"Right enough," Alan said again, more abruptly. He felt a sudden twinge of annoyance; Judy had somehow developed a silly crush on him during the last voyage to Alpha C, and since then she had contrived to follow him around wherever he went, bombarding him with questions. She was a silly adolescent girl, Alan thought scornfully.

"Happy birthday," she said, giggling. "Can I kiss you?"

"No," returned Alan flatly. "You better watch out or I'm going to get Rat after you."

"Oh, I'm not afraid of that little beast," she retorted. "One of these days I'll chuck him down the disposal hatch like the little vermin he—ouch!"

"You watch out who you're calling vermin," said a thin, dry, barely-audible voice from the floor.

Alan glanced down and saw Rat, his pet and companion, squatting near Judy and flicking his beady little red eyes mischievously in the direction of the girl's bare skinny ankle.

"He bit me," Judy complained, gesturing as if she were going to step on the little creature. But Rat nimbly skittered to one side, leaped to the trousers of Alan's uniform, and from there clambered to his usual perch aboard his master's shoulder.

Judy gestured at him in frustration, stamped her foot, and dashed away into the mess hall. Chuckling, Alan followed and found his seat at the bench assigned to Crewmen of his status quotient.

"Thanks, fellow," he said softly to the little being on his shoulder. "That's kid's getting to be pretty annoying."

"I figured as much," Rat said in his chittering birdlike voice. "And I don't like the way she's been looking at me. She's just the kind of individual who would dump me in a disposal hatch."

"Don't worry about it," Alan said. "If she pulls anything of the sort I'll personally see to it that she goes out right after you."

"That does me a lot of good," Rat said glumly as Alan's breakfast came rolling toward him on the plastic conveyor belt from the kitchen.

Alan laughed and reached avidly for the steaming tray of food. He poured a little of his synthorange juice into a tiny pan for Rat, and fell to.

Rat was a native of Bellatrix VII, an Earth-size windswept world that orbited the bright star in the Orion constellation. He was a member of one of the three intelligent races that shared the planet with a small colony of Earthmen.

The Valhalla had made the long trip to Bellatrix, 215 light-years from Earth, shortly before Alan's birth. Captain Donnell had won the friendship of the little creature and had brought him back to the ship when time came for the Valhalla to return to Earth for its next assignment.

Rat had been the Captain's pet, and he had given Alan the small animal on his tenth birthday. Rat had never gotten along well with Steve, and more than

once he had been the cause of jealous conflicts between Alan and his twin.

Rat was well named; he looked like nothing so much as a small bluish-purple rodent, with wise, beady little eyes and a scaly curling tail. But he spoke Terran clearly and well, and in every respect he was an intelligent, loyal, and likable creature.

They ate in silence. Alan was halfway through his bowl of protein mix when Art Kandin dropped down onto his bench facing him. The Valhalla's First Officer was a big pudgy-faced man who had the difficult job of translating the concise, sometimes almost cryptic commands of Alan's father into the actions that kept the great starship going.

"Good rising, Alan. And happy birthday."

"Thanks, Art. But how come you're loafing now? Seems to me you'd be busy as a Martian dustdigger today, of all days. Who's setting up the landing orbit, if you're here?"

"Oh, that's all been done," Kandin said lightly. "Your Dad and I were up all last night working out the whole landing procedure." He reached out and took Rat from Alan's shoulder, and began to tickle him with his forefinger. Rat responded with a playful nip of his sharp little teeth. "I'm taking the morning off," Kandin continued. "You can't imagine how nice it's going to be to sit around doing nothing while everyone else is working, for a change."

"What's the landing hour?"

"Precisely 1753 tonight. It's all been worked out. We actually are in the landing orbit now, though the ship's gimbals keep you from feeling it. We'll touch down tonight and move into the Enclave tomorrow." Kandin eyed Alan with sudden suspicion. "You're planning to stay in the Enclave, aren't you?"

Alan put down his fork with a sharp tinny clang and stared levelly at the First Officer. "That's a direct crack. You're referring to my brother, aren't you?"

"Who wouldn't be?" Kandin asked quietly. "The captain's son jumping ship? You don't know how your father suffered when Steve went over the hill. He kept it all hidden and just didn't say a thing, but I know it hit him hard. The whole affair was a direct reflection on his authority as a parent, of course, and that's why he was so upset. He's a man who isn't used to being crossed."

"I know. He's been on top here so long, with everyone following his orders, that he can't understand how someone could disobey and jump ship—especially his own son."

"I hope you don't have any ideas of——"

Alan clipped off Kandin's sentence before it had gotten fully started. "I don't need advice, Art. I know what's right and wrong. Tell me the truth—did Dad send you to sound me out?"

Kandin flushed and looked down. "I'm sorry, Alan. I didn't mean—well——"

They fell silent. Alan returned his attention to his breakfast, while Kandin stared moodily off into the distance.

"You know," the First Officer said finally, "I've been thinking about Steve.

It just struck me that you can't call him your twin any more. That's one of the strangest quirks of star travel that's been recorded yet."

"I thought of that. He's twenty-six, I'm seventeen, and yet we used to be twins. But the Fitzgerald Contraction does funny things."

"That's for sure," Kandin said. "Well, time for me to start relaxing." He clapped Alan on the back, disentangled his long legs from the bench, and was gone.

The Fitzgerald Contraction does funny things, Alan repeated to himself, as he methodically chewed his way through the rest of his meal and got on line to bring the dishes to the yawning hopper that would carry them down to the molecular cleansers. Real funny things.

He tried to picture what Steve looked like now, nine years older. He couldn't.

As velocity approaches that of light, time approaches zero.

That was the key to the universe. Time approaches zero. The crew of a spaceship Traveling from Earth to Alpha Centauri at a speed close to that of light would hardly notice the passage of time on the journey.

It was, of course, impossible ever actually to reach the speed of light. But the great starships could come close. And the closer they came, the greater the contraction of time aboard ship.

It was all a matter of relativity. Time is relative to the observer.

Thus travel between the stars was possible. Without the Fitzgerald Contraction, the crew of a spaceship would age five years en route to Alpha C, eight to Sirius, ten to Procyon. More than two centuries would elapse in passage to a far-off star like Bellatrix.

Thanks to the contraction effect, Alpha C was three weeks away, Sirius a month and a half. Even Bellatrix was just a few years' journey distant. Of course, when the crew returned to Earth they found things completely changed; years had passed on Earth, and life had moved on.

Now the Valhalla was back on Earth again for a short stay. On Earth, starmen congregated at the Enclaves, the cities-within-cities that grew up at each spaceport. There, starmen mingled in a society of their own, without attempting to enter the confusing world outside.

Sometimes a Spacer broke away. His ship left him behind, and he became an Earther. Steve Donnell had done that.

The Fitzgerald Contraction does funny things. Alan thought of the brother he had last seen just a few weeks ago, young, smiling, his own identical twin—and wondered what the nine extra years had done to him.

Alan dumped his breakfast dishes into the hopper and walked briskly out of the mess hall. His destination was the Central Control Room, that long and broad chamber that was the nerve-center of the ship's activities just as the Common Recreation Room was the center of off-duty socializing for the Crew.

He found the big board where the assignments for the day were chalked,

and searched down the long lists for his own name.

"You're working with me today, Alan," a quiet voice said.

He turned at the sound of the voice and saw the short, wiry figure of Dan Kelleher, the cargo chief. He frowned. "I guess we'll be crating from now till tonight without a stop," he said unhappily.

Kelleher shook his head. "Wrong. There's really not very much work. But it's going to be cold going. All those chunks of dinosaur meat in the preserving hold are going to get packed up. It won't be fun."

Alan agreed.

He scanned the board, looking down the rows for the list of cargo crew. Sure enough, there was his name: Donnell, Alan, chalked in under the big double C. As an Unspecialized Crewman he was shifted from post to post, filling in wherever he was needed.

"I figure it'll take four hours to get the whole batch crated," Kelleher said. "You can take some time off now, if you want to. You'll be working to make up for it soon enough."

"I won't debate the point. Suppose I report to you at 0900?"

"Suits me."

"In case you need me before then, I'll be in my cabin. Just ring me."

Once back in his cabin, a square cubicle in the beehive of single men's rooms in the big ship's fore section, Alan unslung his pack and took out the dog-eared book he knew so well. He riffled through its pages. The Cavour Theory, it said in worn gold letters on the spine. He had read the volume end-to-end at least a hundred times.

"I still can't see why you're so wild on Cavour," Rat grumbled, looking up from his doll-sized sleeping-cradle in the corner of Alan's cabin. "If you ever do manage to solve Cavour's equations you're just going to put yourself and your family right out of business. Hand me my nibbling-stick, like a good fellow."

Alan gave Rat the much-gnawed stick of Jovian oak which the Bellatrician used to keep his tiny teeth sharp.

"You don't understand," Alan said. "If we can solve Cavour's work and develop the hyperdrive, we won't be handicapped by the Fitzgerald Contraction. What difference does it make in the long run if the Valhalla becomes obsolete? We can always convert it to the new drive. The way I see it, if we could only work out the secret of Cavour's hyperspace drive, we'd——"

"I've heard it all before," Rat said, with a note of boredom in his reedy voice. "Why, with hyperspace drive you'd be able to flit all over the galaxy without suffering the time-lag you experience with regular drive. And then you'd accomplish your pet dream of going everywhere and seeing everything. Ah! Look at the eyes light up! Look at the radiant expression! You get starry-eyed every time you start talking about the hyperdrive!"

Alan opened the book to a dog-eared page. "I know it can be done eventually. I'm sure of it. I'm even sure

Cavour himself actually succeeded in building a hyperspace vessel."

"Sure," Rat said drily, switching his long tail from side to side. "Sure he built one. That explains his strange disappearance. Went out like a snuffed candle, soon as he turned on his drive. Okay, go ahead and build one—if you can. But don't bother booking passage for me."

"You mean you'd stay behind if I built a hyperspace ship?"

"Sure I would." There was no hesitation in Rat's voice. "I like this particular space-time continuum very much. I don't care at all to wind up seventeen dimensions north of here with no way back."

"You're just an old stick-in-the mud." Alan glanced at his wristchron. It read 0852. "Time for me to get to work. Kelleher and I are packing frozen dinosaur today. Want to come along?"

Rat wiggled the tip of his nose in a negative gesture. "Thanks all the same, but the idea doesn't appeal. It's nice and warm here. Run along, boy; I'm sleepy." He curled up in his cradle, wrapped his tail firmly around his body, and closed his eyes.

There was a line waiting at the entrance to the freezer section, and Alan took his place on it. One by one they climbed into the spacesuits which the boy in charge provided, and entered the airlock.

For transporting perishable goods—such as the dinosaur meat brought back from the colony on Alpha C IV to satisfy the heavy demand for that odd-tasting delicacy on Earth— the Valhalla used the most efficient freezing system of all: a compartment which opened out into the vacuum of space. The meat was packed in huge open receptacles which were flooded just before blastoff; before the meat had any chance to spoil, the lock was opened, the air fled into space and the compartment's heat radiated outward. The water froze solid, preserving the meat. It was just as efficient as building elaborate refrigeration coils, and a good deal simpler.

The job now was to hew the frozen meat out of the receptacles and get it packed in manageable crates for shipping. The job was a difficult one. It called for more muscle than brain.

As soon as all members of the cargo crew were in the airlock, Kelleher swung the hatch closed and threw the lever that opened the other door into the freezer section. Photonic relays clicked; the metal door swung lightly out and they headed through it after Kelleher gave the go-ahead.

Alan and the others set grimly about their work, chopping away at the ice. They fell to vigorously. After a while, they started to get somewhere. Alan grappled with a huge leg of meat while two fellow starmen helped him ease it into a crate. Their hammers pounded down as they nailed the crate together, but not a sound could be heard in the airless vault.

After what seemed to be three or four centuries to Alan, but which was actually only two hours, the job was

done. Somehow Alan got himself to the recreation room; he sank down gratefully on a webfoam pneumochair.

He snapped on a spool of light music and stretched back, completely exhausted. I don't ever want to see or taste a dinosaur steak again, he thought. Not ever.

He watched the figures of his crewmates dashing through the ship, each going about some last-minute job that had to be handled before the ship touched down. In a way he was glad he had drawn the assignment he had: it was difficult, gruelingly heavy labor, carried out under nasty circumstances—it was never fun to spend any length of time doing manual labor inside a spacesuit, because the sweat-swabbers and the air conditioners in the suit were generally always one step behind on the job—but at least the work came to a definite end. Once all the meat was packed, the job was done.

The same couldn't be said for the unfortunates who swabbed the floors, scraped out the jets, realigned the drive mechanism, or did any other tidying work. Their jobs were never done; they always suffered from the nagging thought that just a little more work might bring the inspection rating up a decimal or two.

Every starship had to undergo a rigorous inspection whenever it touched down on Earth. The Valhalla probably wouldn't have any difficulties, since it had been gone only nine years Earthtime. But ships making longer voyages often had troubles with the inspectors. Procedure which passed inspection on a ship bound out for Rigel or one of the other far stars might have become a violation in the hundreds of years that would have passed before its return.

Alan wondered if the Valhalla would run into any inspection problems. The schedule called for departure for Procyon in six days, and the ship would as usual be carrying a party of colonists.

The schedule was pretty much of a sacred thing. But Alan had not forgotten his brother Steve. If he only had a few days to get out there and maybe find him——

Well, I'll see, he thought. He relaxed.

But relaxation was brief. A familiar high-pitched voice cut suddenly into his consciousness. Oh, oh, he thought. Here comes trouble.

"How come you've cut jets, spaceman?"

Alan opened one eye and stared balefully at the skinny figure of Judy Collier. "I've finished my job, that's how come. And I've been trying to get a little rest. Any objections?"

She held up her hands and looked around the big recreation room nervously. "Okay, don't shoot. Where's that animal of yours?"

"Rat? Don't worry about him. He's in my cabin, chewing his nibbling-stick. I can assure you it tastes a lot better to him than your bony ankles." Alan yawned deliberately. "Now how about letting me rest?"

She looked wounded. "If you want it that way. I just thought I'd tell you

about the doings in the Enclave when we land. There's been a change in the regulations since the last time we were here. But you wouldn't be interested, of course." She started to mince away.

"Hey, wait a minute!" Judy's father was the Valhalla's Chief Signal Officer, and she generally had news from a planet they were landing on a lot quicker than anyone else. "What's this all about?"

"A new quarantine regulation. They passed it two years ago when a ship back from Altair landed and the crew turned out to be loaded with some sort of weird disease. We have to stay isolated even from the other starmen in the Enclave until we've all had medical checkups."

"Do they require every ship landing to go through this?"

"Yep. Nuisance, isn't it? So the word has come from your father that since we can't go round visiting until we've been checked, the Crew's going to have a dance tonight when we touch down."

"A dance?"

"You heard me. He thought it might be a nice idea—just to keep our spirits up until the quarantine's lifted. That nasty Roger Bond has invited me," she added, with a raised eyebrow that was supposed to be sophisticated-looking.

"What's wrong with Roger? I just spent a whole afternoon crating dinosaur meat with him."

"Oh, he's—well—he just doesn't do anything to me."

I'd like to do something to you, Alan thought. Something lingering, with boiling oil in it.

"Did you accept?" he asked, just to be polite.

"Of course not! Not yet, that is. I just thought I might get some more interesting offers, that's all," she said archly.

Oh, I see the game, Alan thought. She's looking for an invitation. He stretched way back and slowly let his eyes droop closed. "I wish you luck," he said.

She gaped at him. "Oh—you're horrible!"

"I know," he admitted coolly. "I'm actually a Neptunian mudworm, completely devoid of emotions. I'm here in disguise to destroy the Earth, and if you reveal my secret I'll eat you alive."

She ignored his sally and shook her head. "But why do I always have to go to dances with Roger Bond?" she asked plaintively. "Oh, well. Never mind," she said, and turned away.

He watched her as she crossed the recreation room floor and stepped through the exit sphincter. She was just a silly girl, of course, but she had pointed up a very real problem of starship life when she asked, "Why do I always have to go to dances with Roger Bond?"

The Valhalla was practically a self-contained universe. The Crew was permanent; no one ever left, unless it was to jump ship the way Steve had—and Steve was the only Crewman in the Valhalla's history to do that. And no one new ever came aboard, except in the case of the infrequent changes of personnel. Judy Collier herself was one of

the newest members of the Crew, and her family had come aboard five ship years ago, because a replacement signal officer had been needed.

Otherwise, things remained the same. Two or three dozen families, a few hundred people, living together year in and year out. No wonder Judy Collier always had to go to dances with Roger Bond. The actual range of eligibles was terribly limited.

That was why Steve had gone over the hill. What was it he had said? I feel the walls of the ship holding me in like the bars of a cell. Out there was Earth, population approximately eight billion or so. And up here is the Valhalla, current population precisely 176.

He knew all 176 of them like members of his own family—which they were, in a sense. There was nothing mysterious about anyone, nothing new.

And that was what Steve had wanted: something new. So he had jumped ship. Well, Alan thought, development of a hyperdrive would change the whole setup, if—if——

He hardly found the quarantine to his liking either. The starmen had only a brief stay on Earth, with just the shortest opportunity to go down to the Enclave, mingle with starmen from other ships, see a new face, trade news of the starways. It was almost criminal to deprive them of even a few hours of it.

Well, a dance was the second best thing. But it was a pretty distant second, he thought, as he pushed himself up out of the pneumochair.

He looked across the recreation room. Speak of the devil, he thought. There was Roger Bond now, stretched out and resting too under a radiotherm lamp. Alan walked over to him.

"Heard the sad news, Rog?"

"About the quarantine? Yeah." Roger glanced at his wristchron. "Guess I'd better start getting spruced up for the dance," he said, getting to his feet. He was a short, good-looking, dark-haired boy a year younger than Alan.

"Going with anyone special?"

Roger shook his head. "Who, special? Who, I ask you? I'm going to take skinny Judy Collier, I guess. There's not much choice, is there?"

"No," Alan agreed sadly, "Not much choice at all." Together they left the recreation room. Alan felt a strange sort of hopeless boredom spreading over him, as if he had entered a gray fog. It worried him.

"See you tonight," Roger said.

"I suppose so," Alan returned dully. He was frowning.

The Valhalla touched down on Earth at 1753 on the nose, to nobody's very great surprise. Captain Mark Donnell had not missed schedule once in his forty ship years in space, which covered a span of over a thousand years of Earth's history.

Landing procedure was rigidly set. The Crew debarked by family, in order of signing-on; the only exception to the order was Alan. As a member of the Captain's family— the only other member, now—he had to wait till the rest of the ship was cleared. But his turn came eventually.

"Solid ground again, Rat!" They stood on the jet-fused dirt field where the Valhalla had landed. The great golden-hulled starship was reared up on its tail, with its huge landing buttresses flaring out at each side to keep it propped up.

"Solid for you, maybe," Rat said. "But the trip's just as wobbly as ever for me, riding up here on your shoulder."

Captain Donnell's shrill whistle sounded, and he cupped his hands to call out, "The copters are here!"

Alan watched the little squadron of gray jetcopters settle to the ground, rotors slowing, and headed forward along with the rest of the Crew. The copters would take them from the bare landing field of the spaceport to the Enclave, where they would spend the next six days.

The Captain was supervising the loading of the copters. Alan sauntered over to him.

"Where to, son?"

"I'm scheduled to go over in Copter One."

"Uh-uh. I've changed the schedule." Captain Donnell turned away and signaled to the waiting crew members. "Okay, go ahead and fill up Copter One!"

They filed aboard. "Everyone get back," the Captain yelled. A tentative chugg-chuff came from the copter; its rotors went round and it lifted, stood poised for a moment on its jetwash, and shot off northward toward the Starmen's Enclave.

"What's this about a change in schedule, Dad?"

"I want you to ride over with me in the two-man copter. Kandin took your place aboard Copter One. Let's go now," he shouted to the next group. "Start loading up Number Two."

The Crewmen began taking their places aboard the second copter, and soon its pilot signaled through the fore window that he was loaded up. The copter departed. Seeing that he would be leaving the field last, Alan made himself useful by keeping the younger Crew children from wandering.

At last the field was cleared. Only Alan and his father remained, with the little two-man copter and the tall gleaming Valhalla behind them.

"Let's go," the Captain said. They climbed in, Alan strapping himself down in the copilot's chair and his father back of the controls.

"I never see much of you these days," the Captain said after they were aloft. "Running the Valhalla seems to take twenty-four hours a day."

"I know how it is," Alan said.

After a while Captain Donnell said, "I see you're still reading that Cavour book." He chuckled. "Still haven't given up the idea of finding the hyperdrive, have you?"

"You know I haven't, Dad. I'm sure Cavour really did work it out, before he disappeared. If we could only discover his notebook, or even a letter or something that could get us back on the trail——"

"It's been thirteen hundred years since Cavour disappeared, Alan. If noth-

ing of his has turned up in all that time, it's not likely ever to show. But I hope you keep at it, anyway." He banked the copter and cut the jets; the rotors took over and gently lowered the craft to the distant landing field.

Alan looked down and out at the heap of buildings becoming visible below. The crazy quilt of outdated, clumsy old buildings that was the local Starmen's Enclave.

He felt a twinge of surprise at his father's words. The Captain had never shown any serious interest in the possibility of faster-than-light travel before. He had always regarded the whole idea as sheer fantasy.

"I don't get it, Dad. Why do you hope I keep at it? If I ever find what I'm looking for, it's going to mean the end of Starman life as you know it. Travel between planets will be instantaneous. There—there won't be this business of making jumps and getting separated from everyone you used to know."

"You're right. I've just begun thinking seriously about this business of hyperdrive. There wouldn't be any Contraction effect. Think of the changes it would mean in Starman society! No more—no more permanent separations if someone decides to leave his ship for a while."

Alan understood what his father meant. Suddenly he saw the reason for Captain Donnell's abrupt growth of interest in the development of a hyperdrive.

It's Steve that's on his mind, Alan thought. If we had had a hyperspace drive and Steve had done what he did, it wouldn't have mattered. He'd still be my age.

Now the Valhalla was about to journey to Procyon. Another twenty years would pass before it got back, and Steve would be almost fifty by then.

That's what's on his mind, Alan thought. He lost Steve forever—but he doesn't want any more Steves to happen. The Contraction took one of his sons away. And now he wants the hyperdrive as much as I do.

Alan glanced at the stiff, erect figure of his father as they clambered out of the copter and headed at a fast clip toward the Administration Building of the Enclave. He wondered just how much pain and anguish his father was keeping hidden back of that brisk, efficient exterior.

I'll get the Cavour drive someday, Alan thought suddenly. And I'll be getting it for him as well as me.

The bizarre buildings of the Enclave loomed up before him. Behind them, just visible in the purplish twilight haze, were the tips of the shining towers of the Earther city outside. Somewhere out there, probably, was Steve.

I'll find him too, Alan thought firmly.

* * * * *

Most of the Valhalla's people had already been assigned rooms in the quarantine section of one of the Enclave buildings when Alan and his father arrived.

The bored-looking desk clerk—a withered-looking oldster who was probably a retired Starman—gave Alan his

room number. It turned out to be a small, squarish room furnished with an immense old pneumochair long since deflated, a cot, and a washstand. The wall was a dull green, with gaping cracks in the faded paint, and cut heavily with a penknife into one wall was the inscription, BILL DANSERT SLEPT HERE, June 28 2683 in sturdy block letters.

Alan wondered how many other starmen had occupied the room before and after Bill Dansert. He wondered whether perhaps Bill Dansert himself were still alive somewhere between the stars, twelve centuries after he had left his name in the wall.

He dropped himself into the pneumochair, feeling the soggy squish of the deflated cushion, and loosened the jacket of his uniform.

"It's not luxurious," he told Rat. "But at least it's a room. It's a place to stay."

The medics started coming around that evening, checking to see that none of the newly-arrived starmen had happened to bring back any strange disease that might cause trouble. It was slow work—and the Valhalla people were told that it would take at least until the following morning before the quarantine could be lifted.

"Just a precautionary measure," said the medic apologetically as he entered Alan's room clad in a space helmet. "We really learned our lesson when that shipload from Altair came in bearing a plague."

The medic produced a small camera and focused it on Alan. He pressed a button; a droning sort of hum came from the machine. Alan felt a curious glow of warmth.

"Just a routine check," the medic apologized again. He flipped a lever in the back of the camera. Abruptly the droning stopped and a tape unraveled out of the side of the machine. The medic studied it.

"Any trouble?" Alan asked anxiously.

"Looks okay to me. But you might get that cavity in your upper right wisdom tooth taken care of. Otherwise you seem in good shape."

He rolled up the tape. "Don't you starmen ever get time for a fluorine treatment? Some of you have the worst teeth I've ever seen."

"We haven't had a chance for fluorination yet. Our ship was built before they started fluorinating the water supplies, and somehow we never find time to take the treatment while we're on Earth. But is that all that's wrong with me?"

"All that I can spot just by examining the diagnostic tape. We'll have to wait for the full lab report to come through before I can pass you out of quarantine, of course." Then he noticed Rat perched in the corner. "How about that? I'll have to examine it, too."

"I'm not an it," Rat remarked with icy dignity. "I'm an intelligent extraterrestrial entity, native of Bellatrix VII. And I'm not carrying any particular diseases that would interest you."

"A talking rat!" The medic was amazed. "Next thing we'll have sentient amoebas!" He aimed the camera at Rat.

"I suppose I'll have to record you as a member of the crew," he said, as the camera began to hum.

After the medic had gone, Alan tried to freshen up at the washstand, having suddenly recalled that a dance was on tap for this evening.

As he wearily went through the motions of scrubbing his face clean, it occurred to him that he had not even bothered to speak to one of the seven or eight Crew girls he had considered inviting.

He sensed a curious disturbed feeling growing inside him. He felt depressed. Was this, he wondered, what Steve had gone through? The wish to get out of this tin can of a ship and really see the universe?

"Tell me, Rat. If you were me——"

"If I were you I'd get dressed for that dance," Rat said sharply. "If you've got a date, that is."

"That's just the point. I don't have a date. I mean, I didn't bother to make one. I know all those girls so well. Why bother?"

"So you're not going to the dance?"

"Nope."

Rat clambered up the arm of the pneumochair and swivelled his head upward till his glittering little eyes met Alan's. "You're not planning to go over the hill the way Steve did, are you? I can spot the symptoms. You look restless and fidgety the way your brother did."

After a moment of silence Alan shook his head. "No. I couldn't do that, Rat. Steve was the wild kind. I'd never be able just to get up and go, the way he did. But I've got to do something. I know what he meant. He said the walls of the ship were pressing in on him. Holding him back."

With a sudden impatient motion he ripped open the magnesnaps of his regulation shirt and took it off. He felt himself changing, inside. Something was happening to him. Maybe, he thought, he was catching whatever it was Steve had been inflamed by. Maybe he had been lying to himself all along, about being different in makeup from Steve.

"Go tell the Captain I'm not going to the dance," he ordered Rat. "Otherwise he'll wonder where I am. Tell him—tell him I'm too tired, or something. Tell him anything. But don't let him find out how I feel."

The next morning, Roger Bond told him all about the dance.

"It was the dullest thing you could imagine. Same old people, same dusty old dances. Couple of people asked me where you were, but I didn't tell them anything."

"Good."

They wandered on through the heap of old, ugly buildings that composed the Starmen's Enclave. "It's just as well they think I was sick," Alan said. "I was, anyway. Sick from boredom."

He and Roger sat down carefully on the edge of a crumbling stone bench. They said nothing, just looking around. After a long while Alan broke the uncomfortable silence.

"You know what this place is? It's a ghetto. A self-imposed ghetto. Starmen

are scared silly of going out into the Earther cities, so they keep themselves penned up in this filthy place instead."

"This place is really old. I wonder how far back those rundown buildings date."

"Thousand years, maybe more. No one ever bothers to build new ones. What for? The starmen don't mind living in the old ones."

"I almost wish the medical clearance hadn't come through after all," said Roger moodily.

"How so?"

"Then we'd be still quarantined up there. We wouldn't be able to come down and get another look at the kind of place this really is."

"I don't know which is worse—to be cooped up in quarantine or to go wandering around a dismal hole like the Enclave." Alan stood up, stretched, and took a deep breath. "Phew! Get a lungful of that sweet, fresh, allegedly pure Terran air! I'll take ship atmosphere, stale as it is, any time over this smoggy soup."

"I'll go along with that. Say, look—a strange face!"

Alan turned and saw a young starman of about his own age coming toward them. He wore a red uniform with gray trim instead of the orange-and-blue of the Valhalla.

"Welcome, newcomers. I suppose you're from that ship that just put down? The Valhalla?"

"Right. Name's Alan Donnell, and this is Roger Bond. Yours?"

"I'm Kevin Quantrell." He was short and stocky, heavily tanned, with a square jaw and a confident look about him. "I'm out of the starship Encounter, just back from the Aldebaran system. Been in the Enclave two weeks now—with a lot more ahead of me."

Alan whistled. "Aldebaran! That's—let's see, 109 years round trip. You must be a real old-timer, Quantrell!"

"I was born in 3403. Makes me 473 years old, Earthtime. But I'm actually only seventeen and a half. Right before Aldebaran we made a hop to Capella, and that used up 85 years more in a hurry."

"You've got me by 170 years," Alan said. "But I'm only seventeen myself."

Quantrell grinned cockily. "It's a good thing some guy thought up this Tally system of chalking up every real day you live through. Otherwise we'd be up to here in confusion all the time."

He leaned boredly against the wall of a rickety building which once had proudly borne the chrome-steel casing characteristic of early 27th Century architecture, but whose outer surface was now brown and scaly from rust. "What do you think of our little paradise?" Quantrell asked sarcastically. "Certainly puts the Earther cities to shame."

He pointed out across the river, where the tall, glistening buildings of the adjoining Earther city shone in the morning sunlight.

"Have you ever been out there?" Alan asked.

"No," Quantrell said in a tight voice. "But if this keeps up much longer——" He clenched and unclenched his fists

impatiently.

"What's the trouble?"

"It's my ship—the Encounter. We were outspace over a century, you know, and when we got back the inspection teams found so many things wrong with the ship that she needs just about a complete overhauling. They've been working her over for the last two weeks, and the way it looks it'll be another couple of weeks before she's ready to go. And I don't know how much longer I can stand being penned up in this Enclave."

"That's exactly how your brother——" Roger started to say, and stopped. "Sorry."

"That's okay," Alan said.

Quantrell cocked an eye. "What's that?"

"My brother. I had a twin, but he got restless and jumped ship last time we were down. He got left behind at blastoff time."

Quantrell nodded understandingly. "Too bad. But I know what he was up against— and I envy the lucky so-and-so. I wish I had the guts to just walk out like that. Every day that goes by in this place, I say I'm going over the hill next day. But I never do, somehow. I just sit here and wait."

Alan glanced down the quiet sun-warmed street. Here and there a couple of venerable looking starmen were sitting, swapping stories of their youth—a youth that had been a thousand years before. The Enclave, Alan thought, is a place for old men.

They walked on for a while until the buzzing neon signs of a feelie theater were visible. "I'm going in," Roger said. "This place is starting to depress me. You?"

Alan shot a glance at Quantrell, who made a face and shook his head. "I guess I'll skip it," Alan said. "Not just now."

"Count me out too," Quantrell said.

Roger looked sourly from one to the other, and shrugged. "I think I'll go all the same. I'm in the mood for a good show. See you around, Alan."

After Roger left them, Alan and Quantrell walked on through the Enclave together. Alan wondered whether it wasn't a good idea to have gone to the feelie with Roger after all; the Enclave was starting to depress him, too, and those three-dimensional shows had a way of taking your mind off things.

But he was curious about Quantrell. It wasn't often he had a chance to talk with someone his own age from another ship. "You know," he said, "we starmen lead an empty life. You don't get to realize it until you come to the Enclave."

"I decided that a long time ago," Quantrell said.

Alan spread his hands. "What do we do? We dash back and forth through space, and we huddle here in the Enclave. And we don't like either one or the other, but we fool ourselves into liking them. When we're in space we can't wait to get to the Enclave, and once we're down here we can't wait to get back. Some life."

"Got any suggestions? Some way of fixing things up for us without queering

interstellar commerce?"

"Yes," Alan snapped. "I do have a suggestion. Hyperspace drive!"

Quantrell laughed harshly. "Of all the cockeyed——"

"There you are," Alan said angrily. "First thing you do is laugh. A spacewarp drive is just some hairbrained scheme to you. But haven't you ever considered that Earth's scientists won't bother developing such a drive for us if we don't care ourselves? They're just as happy the way things are. They don't have to worry about the Fitzgerald Contraction."

"But there's been steady research on a hyperdrive, hasn't there? Ever since Cavour, I thought."

"On and off. But they don't take it very seriously and they don't get anywhere with it. If they'd really put some men to work they'd find it—and then there wouldn't be any more Enclaves or any Fitzgerald Contraction, and we starmen could live normal lives."

"And your brother—he wouldn't be cut off from his people the way he is——"

"Sure. But you laughed instead of thinking."

Quantrell looked contrite. "Sorry. Guess I didn't put much jet behind my think-machine that time. But a hyperdrive would wipe out the Enclave system, wouldn't it?"

"Of course! We'd be able to come home from space and take a normal part in Earth's life, instead of pulling away and segregating ourselves here."

Alan looked up at the seemingly unreachable towers of the Earther city just across the river from the Enclave. Somewhere out there was Steve. And perhaps somewhere out there was someone he could talk to about the hyperdrive, someone influential who might spur the needed research.

The Earther city seemed to be calling to him. It was a voice that was hard to resist. He savagely jammed down deep inside him the tiny inner voice that was trying to object. He turned, looking backward at the dingy dreary buildings of the Enclave.

He looked then at Quantrell. "You said you've been wanting to break loose. You want to get out of the Enclave, eh, Kevin?"

"Yes," Quantrell said slowly.

Alan felt excitement beginning to pound hard in the pit of his stomach. "How'd you like to go outside there with me? See the Earther city?"

"You mean jump ship?"

The naked words, put just that bluntly, stung. "No," Alan said, thinking of how his father's face had gone stony the time Alan had told him Steve wasn't coming back. "I mean just going out for a day or so—a sort of change of air. It's five days till the Valhalla's due to blast off, and you say the Encounter is stuck here indefinitely. We could just go for a day or so—just to see what it's like out there."

Quantrell was silent a long time.

"Just for a day or so?" he asked, at last. "We'll just go out, and have a look around, just to see what it's like out there." He fell silent again. Alan saw a

little trickle of sweat burst out on Quantrell's cheek. He felt strangely calm himself, a little to his own surprise.

Then Quantrell smiled and the confidence returned to his tanned face. "I'm game. Let's go!"

But Rat was quizzical about the whole enterprise when Alan returned to his room to get him.

"You aren't serious, Alan. You really are going over to the Earther city?"

Alan nodded and gestured for the little extraterrestrial to take his usual perch. "Are you daring to take my word in vain, Rat?" he asked in mock histrionics. "When I say I'm going to do something, I do it." He snapped closed his jacket and flipped the switch controlling the archaic fluorescent panels. "Besides, you can always stay here if you want to, you know."

"Never mind," Rat said. "I'm coming." He leaped up and anchored himself securely on Alan's shoulder.

Kevin Quantrell was waiting for them in front of the building. As Alan emerged Rat said, "One question, Alan."

"Shoot."

"Level, now: are you coming back—or are you going over the way Steve did?"

"You ought to know me better than that. I've got reasons for going out, but they're not Steve's reasons."

"I hope so."

Quantrell came up to them, and it seemed to Alan that there was something unconvincing about his broad grin. He looked nervous. Alan wondered whether he looked the same way.

"All set?" Quantrell asked.

"Set as I'll ever be. Let's go."

Alan looked around to see if anybody he knew might be watching. There was no one around. Quantrell started walking, and Alan fell in behind him.

"I hope you know where you're going," Alan said. "Because I don't."

Kevin pointed down the long winding street. "We go down to the foot of this street, turn right into Carhill Boulevard, head down the main drive toward the bridge. The Earther city is on the other side of the river."

"You better be right."

They made it at a fairly good clip through the sleepy Enclave, passing rapidly through the old, dry, dusty streets. Finally they came to the end of the street and rounded the corner onto Carhill Boulevard.

The first thing Alan saw was the majestic floating curve of the bridge. Then he saw the Earther city, a towering pile of metal and masonry that seemed to be leaping up into the sky ahead of them, completely filling the view.

Alan pointed to the bridge-mouth. "That's where we go across, isn't it?"

But Quantrell hung back. He stopped in his tracks, staring dangle-jawed at the immense city facing them.

"There it is," he said quietly.

"Sure. Let's go, eh?" Alan felt a sudden burst of impatience and started heading toward the approach to the bridge.

But after three or four paces he re-

alized Quantrell was not with him. He turned and saw the other spaceman still rooted to the ground, gazing up at the vast Earther city as if in narcoshock.

"It's big," Quantrell murmured. "Too big."

"Kevin! What's wrong?"

"Leave him alone," Rat whispered. "I have a hunch he won't be going with you."

Alan watched in astonishment as Quantrell took two steps hesitantly backward away from the bridge, then a third. There was a strange, almost thunderstruck expression on Kevin's face.

Then he broke out of it. He shook his head.

"We aren't really going across—huh, Donnell?" He gave a brittle little laugh.

"Of course we are!" Alan looked around nervously, hoping no one from the Valhalla had spotted him in all this time. Puzzled at Quantrell's sudden hesitation after his earlier cockiness, Alan took a couple of shuffling steps toward the bridge, slowly, keeping his eyes on the other starman.

"I can't go with you," Kevin finally managed to say. His face was flushed and strained-looking. He was staring upward at the seemingly topless towers of the city. "It's too big for me." He choked back a half-whimper. "The trouble with me is—the—trouble—with— me—is——" Quantrell lowered his head and met Alan's stare. "I'm afraid, Donnell. Stinking sweaty afraid. The city's too big."

Red-faced, he turned and walked away, back up the street.

Alan silently watched him go.

"Imagine that. Afraid!"

"It's a big place," Rat warned. "Don't you feel the same way? Just a little?"

"I feel perfectly calm," Alan said in utter sincerity. "I know why I'm going over there, and I'm anxious to get moving. I'm not running away, the way Steve was. I'm going to the Earther city to find my brother and to find Cavour's drive, and to bring them both back here!"

"That's a tall order, Alan."

"I'll do it."

Alan reached the approach to the bridge in a few more brisk steps and paused there. The noonday sun turned the long arch of the bridge into a golden ribbon in the sky. A glowing sign indicated the pedestrian walkway. Above that, shining teardrop autos whirred by, leaving faint trails of exhaust. Alan followed the arrows and soon found himself on the bridge, heading for the city.

He glanced back a last time. There was no sign of Kevin. The Starmen's Enclave seemed utterly quiet, almost dead.

Then he turned and kept his gaze forward. The Earther city was waiting for him.

He reached the end of the walkway and paused, a little stunned, staring at the incredible immensity of the city spread out before him.

"It's a big place," he said. "I've never been in a city this big."

"You were born here," Rat re-

minded him.

Alan laughed. "But I only stayed here a week or two at most. And that was three hundred years ago. The city's probably twice as big now as it was then. It——"

"Hey, you! Move on!" a harsh voice from behind snapped suddenly.

"What's that?"

Alan whirled and saw a tall, bored-looking man in a silver-gray uniform with gleaming luminescent bands across the sleeves, standing on a raised platform above the road.

"You can't just stand here and block the walkway," the tall man said. His words were heavily accented, thickly guttural; Alan had a little trouble understanding them. The ship's language never changed; that of Earth kept constantly evolving. "Get back in the Enclave where you belong, or get moving, but don't stand here or I'll punch your ticket for you."

Alan took a couple of steps forward. "Just hold on a minute. Who——"

"He's a policeman, Alan," Rat said softly. "Don't make trouble. Do as he says."

Throttling his sudden anger, Alan nodded curtly at the officer and stepped off the walkway. He was an outsider here, and knew he couldn't expect the sort of warm fellowship that existed aboard the ship.

This was a city. A crowded, uncomfortable Earther city. These were the people who were left behind, who never saw the stars in naked glory. They weren't going to be particularly polite.

Alan found himself at an intersection, and wondered where he was to begin. He had some vague idea of finding Steve in this city as easily as he might aboard ship—just check the A Deck roster, then the B Deck, and so on until he found him. But cities weren't quite that neatly organized, Alan realized.

A long broad street ran parallel to the river. It didn't seem very promising: lined with office buildings and warehouses. At right angles to it, though, stretching out in front of him, was a colorful, crowded avenue that appeared to be a major artery of the city. He glanced tentatively in both directions, waited till a lull came in the steady procession of tiny bullet-shaped automobiles flashing by, and hastily jogged across the waterfront street and started down the avenue.

Maybe there was some kind of register of population at the City Hall. If Steve still lived in this city, he could look him up that way. If not——

Facing him were two rows of immense buildings, one on each side of the street. Above every three blocks there was a lacy aerial passageway connecting a building on one side of the street with one on the other, high above the ground. Alan looked up and saw black dots—they looked like ants, but they were people—making their way across the flexi-bridges at dizzying altitudes.

The streets were crowded. Busy stern-faced people raced madly from one place to the next; Alan was accustomed to the more orderly and peace-

ful life of a starship, and found himself getting jostled by passersby from both directions.

He was surprised to find the streets full of peddlers, weary-looking little men trundling along behind small slow-moving self-powered monocars full of vegetables and other produce. Every few moments one would stop and hawk his wares. As Alan started hesitantly up the endless-seeming street, one of the venders stopped virtually in front of him and looked at him imploringly. He was a small untidy-looking man with a dirty face and a red scar streaking his left cheek.

"Hey, boy." He spoke in a soft slurred voice. "Hey, boy. Got something nice for you here."

Alan looked at him, puzzled. The vender reached into his cart and pulled out a long yellow fruit with a small, thick green stem at one end. "Go on, boy. Treat yourself to some of these. Guild-grown, fresh-ripened, best there are. Half a credit for this one." He held it almost under Alan's nose. "Go on," he said insistently.

Alan fished in his pocket and produced one of the half-credit pieces he had been given in the Enclave commissary. For all he knew it was the custom of this city for a new arrival to buy the first thing offered to him by a vender; in any event, he was hungry, and it seemed that this was the easiest way to get rid of the little man. He held out the coin.

"Here. I'll take it."

The vender handed the piece of fruit over and Alan accepted it. He studied it, wondering what he was supposed to do now. It had a thick, tough rind that didn't seem at all appetizing.

The vender chuckled. "What's the matter, boy? Never seen a banana before? Or ain't you hungry?" The little man's derisive face was thrust up almost against Alan's chin.

He backed away a step or two. "Banana? Oh, sure."

He put the end of the banana in his mouth and was just about to take a bite when a savage burst of laughter cut him off.

"Looka him!" the vender cried. "Stupid spacer don't even know how to eat a banana! Looka! Looka!"

Alan took the fruit out of his mouth unbitten and stared uncomprehendingly at it. He felt uneasy; nothing in his past experience had prepared him for deliberate hostility on the part of other people. Aboard ship, you did your job and went your way; you didn't force your presence on other people or poke fun at them maliciously. It was the only way to live when you had to spend your whole lifetime with the same shipload of men and women.

But the little vender wasn't going away. He seemed very amused by everything. "You— you a spacer, no?" he demanded. By now a small crowd had paused and was watching the scene.

Alan nodded.

"Lemme show you how, spacer," the vender said, mockery topmost in his tone. He snatched the banana back from Alan and ripped back the rind with three rough snaps of his wrist. "Go on. Eat it

this way. She tastes better without the peel." He laughed racously. "Looka the spacer!"

Someone else in the crowd said, "What's he doing in the city anyway? He jump ship?"

"Yeah? Why ain't he in the Enclave like all the rest of them?"

Alan looked from one to the other with a troubled expression on his face. He didn't want to touch off any serious incident, but he was determined not to let these Earthers push him around, either. He ignored the ring of hostile faces about him and calmly bit into the banana. The unfamiliar taste pleased him. Despite hoots and catcalls from the crowd he finished it.

"Now the spacer knows how to eat a banana," the vender commented acidly. "Here, spacer. Have another."

"I don't want another."

"Huh? No good? Earth fruits are too good for you, starman. You better learn that fast."

"Let's get out of here," Rat said quietly.

It was sensible advice. These people were just baiting him like a bunch of hounds ringing a hare. He flexed his shoulder in a signal that meant he agreed with Rat's suggestion.

"Have another banana," the vender repeated obstinately.

Alan looked around at the crowd. "I said I didn't want another banana, and I don't want one. Now get out of my way!"

No one moved. The vender and his monocar blocked the path.

"Get out of my way, I said." Alan balled the slimy banana peel up in his hand and rammed it suddenly into the vender's face. "There. Chew on that a while."

He shouldered his way past the spluttering fruit vender, and before anyone in the crowd could say or do anything he was halfway down the street, walking briskly. He lost himself in the passing stream of pedestrians. It was easy to do, despite the conspicuous orange-and-blue of his Valhalla uniform. There were so many people.

He went on for two unmolested blocks, walking quickly without looking back. Finally he decided he was safe. He glanced up at Rat. The little extraterrestrial was sitting patiently astride his shoulder, deep, as usual, in some mysterious thoughts of his own.

"Rat?"

"What, Alan?"

"Why'd they do that? Why did those people act that way? I was a perfect stranger. They had no business making trouble for me."

"That's precisely it—you were a complete stranger. They don't love you for it. You're 300 years old and still 17 at the same time. They can't understand that. These people don't like starmen very much. The people in this city aren't ever going to see the stars, Alan. Stars are just faint specks of light that peek through the city haze at night. They're terribly, terribly jealous of you—and this is the way they show it."

"Jealous? But why? If they only knew what a starman's life is like, with the

Contraction and all! If they could only see what it is to leave your home and never be able to go back——"

"They can't see it, Alan. All they can see is that you have the stars and they don't. They resent it."

Alan shrugged. "Let them go to space, then, if they don't like it here. No one's stopping them."

They walked on silently for a while. Alan continued to revolve the incident in his mind. He realized he had a lot to learn about people, particularly Earther people. He could handle himself pretty well aboard ship, but down on Earth he was a rank greenhorn and he'd have to step carefully.

He looked gloomily at the maze of streets before him and half-wished he had stayed in the Enclave, where starmen belonged. But somewhere out ahead of him was Steve. And somewhere, too, he might find the answer to the big problem, that of finding the hyperspace drive.

But it was a tall order. And he had no idea where to begin. First thing to do, he thought, is find someone halfway friendly-looking and ask if there's a central directory of citizens. Track down Steve, if possible. Time's running out. The Valhalla pulls out in a couple of days.

There were plenty of passersby—but they all looked like the kind that would keep on moving without answering his question. He stopped.

"Come right in here!" a cold metallic voice rasped, almost back of his ear. Startled, Alan looked leftward and saw a gleaming multiform robot standing in front of what looked like a shop of some sort.

"Come right in here!" the robot repeated, a little less forcefully now that it had caught Alan's attention. "One credit can win you ten; five can get you a hundred. Right in here, friend."

Alan stepped closer and peered inside. Through the dim dark blue window he could vaguely make out long rows of tables, with men seated before each one. From inside came the hard sound of another robot voice, calling off an endless string of numbers.

"Don't just stand there staring, friend," the robot urged. "Go right on through the door."

Alan nudged Rat quizzically. "What is it?"

"I'm a stranger here too. But I'd guess it was some sort of gambling place."

Alan jingled the few coins he had in his pocket. "If we had time I'd like to stop off. But——"

"Go ahead, friend, go ahead," the robot crooned, his metallic tones somehow managing to sound almost human in their urgent pleading. "Go on in. One credit can win you ten. Five can get you a hundred."

"Some other time," Alan said.

"But, friend—one credit can win you——"

"I know."

"—ten," the robot continued, undismayed. "Five can get you a hundred." By this time the robot had edged out into the street, blocking Alan's path.

"Are we going to have trouble with you too? It looks like everybody in this city is trying to sell something."

The robot pointed invitingly toward the door. "Why not try it?" it cooed. "Simplest game ever devised. Everybody wins! Go on in, friend."

Alan frowned impatiently. He was getting angrier and angrier at the robot's unceasing sales pitch. Aboard ship, no one coaxed you to do anything; if it was an assigned job, you did it without arguing, and if you were on free time you were your own master.

"I don't want to play your stupid game!"

The robot's blank stainless vanadium face showed no display of feeling whatsoever. "That's not the right attitude, friend. Everyone plays the game."

Ignoring him, Alan started to walk ahead, but the robot skipped lithely around to block him. "Won't you go in just once?"

"Look," Alan said. "I'm a free citizen and I don't want to be subjected to this sort of stuff. Now get out of my way and leave me alone before I take a can opener to you."

"That's not the right attitude. I'm just asking you as a friend——"

"And I'm answering you as one. Let me go!"

"Calm down," Rat whispered.

"They've got no business putting a machine out here to bother people like this," Alan said hotly. He took a few more steps and the robot plucked at his sleeve.

"Is that a final refusal?" A trace of incredulity crept into the robot's voice. "Everyone plays the game, you know. It's unconsumerlike to refuse. It's uncitylike. It's bad busness. It's unrotational. It's——"

Exasperated, Alan pushed the robot out of the way—hard. The metal creature went over surprisingly easily, and thudded to the pavement with a dull clanking sound.

"Are you sure——" the robot began, and then the voice was replaced by the humming sound of an internal clashing of unaligned gears.

"I guess I broke it." Alan looked down at the supine robot. "But it wasn't my fault. It wouldn't let me pass."

"We'd better move on," Rat said. But it was too late. A burly man in a black cloak threw open the door of the gambling parlor and confronted Alan.

"What sort of stuff is this, fellow? What have you done to our servo?"

"That thing wouldn't let me pass. It caught hold of me and tried to drag me inside your place."

"So what? That's what he's for. Robohucksters are perfectly legal." Disbelief stood out on the man's face. "You mean you don't want to go in?"

"That has nothing to do with it. Even if I did want to go in, I wouldn't—not after the way your robot tried to push me."

"Watch out, kid. Don't make trouble. That's unrotational talk. You can get in trouble. Come on inside and have a game or two, and I'll forget the whole thing. I won't even bill you for repairs on my servo."

"Bill me? I ought to sue you for ob-

structing the streets! And I just got through telling your robot that I didn't plan to waste any time gambling at your place."

The other's lips curled into a half-sneer, half-grin. "Why not?"

"My business," Alan said stubbornly. "Leave me alone." He stalked angrily away, inwardly raging at this Earther city where things like this could happen.

"Don't ever let me catch you around here again!" the parlor man shouted after him. Alan lost himself once again in the crowd, but not before he caught the final words: "You filthy spacer!"

Filthy spacer. Alan winced. Again the blind, unreasoning hatred of the unhappy starmen. The Earthers were jealous of something they certainly wouldn't want if they could experience the suffering involved.

Suddenly, he realized he was very tired.

He had been walking over an hour, and he was not used to it. The Valhalla was a big ship, but you could go from end to end in less than an hour, and very rarely did you stay on your feet under full grav for long as an hour. Working grav was .93 Earth-normal, and that odd .07% made quite a difference. Alan glanced down at his boots, mentally picturing his sagging arches.

He had to find someone who could give him a clue toward Steve. For all he knew, one of the men he had brushed against that day was Steve—a Steve grown older and unrecognizable in what had been, to Alan, a few short weeks.

Around the corner he saw a park—just a tiny patch of greenery, two or three stunted trees and a bench, but it was a genuine park. It looked almost forlorn surrounded by the giant skyscrapers.

There was a man on the bench—the first relaxed-looking man Alan had seen in the city so far. He was about thirty or thirty-five, dressed in a baggy green business suit with tarnished brass studs. His face was pleasantly ugly—nose a little too long, cheeks hollow, chin a bit too apparent. And he was smiling. He looked friendly.

"Excuse me, sir," Alan said, sitting down next to him. "I'm a stranger here. I wonder if you——"

Suddenly a familiar voice shouted, "There he is!"

Alan turned and saw the little fruit vender pointing accusingly at him. Behind him were three men in the silver-gray police uniforms. "That's the man who wouldn't buy from me. He's an unrotationist! Damn Spacer!"

One of the policemen stepped forward—a broad man with a wide slab of a face, red, like raw meat. "This man has placed some serious charges against you. Let's see your work card."

"I'm a starman. I don't have a work card."

"Even worse. We'd better take you down for questioning. You starmen come in here and try to——"

"Just a minute, officer." The warm mellow voice belonged to the smiling man on the bench. "This boy doesn't

mean any trouble. I can vouch for him myself."

"And who are you? Let's see your card!"

Still smiling, the man reached into a pocket and drew forth his wallet. He handed a card over to the policeman—and Alan noticed that a blue five-credit note went along with the card.

The policeman made a great show of studying the card and succeeded in pocketing the bill with the same effortless sleight-of-hand that the other had used in handing it over. "Max Hawkes, eh? That you? Free status?"

The man named Hawkes nodded.

"And this Spacer's a pal of yours?"

"We're very good friends."

"Umm. Okay. I'll leave him in your custody. But see to it that he doesn't get into any more jams."

The policeman turned away, signaling to his companions. The fruit vender stared vindictively at Alan for a moment, but saw he would have no revenge. He, too, left.

Alan was alone with his unknown benefactor.

"I guess I owe you thanks," Alan said. "If they had hauled me off I'd be in real trouble."

Hawkes nodded. "They're very quick to lock people up when they don't have work cards. But police salaries are notoriously low. A five-credit bill slipped to the right man at the right time can work wonders."

"Five credits, was it? Here——"

Alan started to fumble in his pocket, but Hawkes checked him with a wave of his hand. "Never mind. I'll write it off to profit and loss. What's your name, spacer, and what brings you to York City?"

"I'm Alan Donnell, of the starship Valhalla. I'm an Unspecialized Crewman. I came over from the Enclave to look for my brother."

Hawkes' lean face assumed an expression of deep interest. "He's a starman too?"

"He—was."

"Was?"

"He jumped ship last time we were here. That was nine years ago Earthtime. I'd like to find him, though. Even though he's so much older now."

"How old is he now?"

"Twenty-six. I'm seventeen. We used to be twins, you see. But the Contraction—you understand about the Contraction, don't you?"

Hawkes nodded thoughtfully, eyes half-closed. "Mmm—yes, I follow you. While you made your last space jump he grew old on Earth. And you want to find him and put him back on your ship, is that it?"

"That's right. Or at least talk to him and find out if he's all right where he is. But I don't know where to start looking. This city is so big—and there are so many other cities all over Earth——"

Hawkes shook his head. "You've come to the right one. The Central Directory Matrix is here. You'll be able to find out where he's registered by the code number on his work card. Unless," Hawkes said speculatively, "he doesn't

have a work card. Then you're in trouble."

"Isn't everyone supposed to have a work card?"

"I don't," Hawkes said.

"But——"

"You need a work card to hold a job. But to get a job, you have to pass guild exams. And in order to take the exams you have to find a sponsor who's already in the guild. But you have to post bond for your sponsor, too—five thousand credits. And unless you have the work card and have been working, you don't have the five thousand, so you can't post bond and get a work card. See? Round and round."

Alan's head swam. "Is that what they meant when they said I was unrotational?"

"No, that's something else. I'll get to that in a second. But you see the work setup? The guilds are virtually hereditary, even the fruit venders' guild. It's next to impossible for a newcomer to crack into a guild—and it's pretty tough for a man in one guild to move up a notch. You see, Earth's a terribly overcrowded planet—and the only way to avoid cutthroat job competition is to make sure it's tough to get a job. It's rough on a starman trying to bull his way into the system."

"You mean Steve may not have gotten a work card? In that case how will I be able to find him?"

"It's harder," Hawkes said. "But there's also a registry of Free Status men—men without cards. He isn't required to register there, but if he did you'd be able to track him down eventually. If he didn't, I'm afraid you're out of luck. You just can't find a man on Earth if he doesn't want to be found."

"Free Status? Isn't that what the policeman said——"

"I was in?" Hawkes nodded. "Sure, I'm Free Status. Out of choice, though, not necessity. But that doesn't matter much right now. Let's go over to the Central Directory Matrix Building and see if we can find any trail for your brother."

They rose. Alan saw that Hawkes was tall, like himself; he walked with easygoing grace. Questioningly Alan twitched his shoulder-blade in a signal that meant, What do you think of this guy, Rat?

Stick with him, Rat signalled back. He sounds okay.

The streets seemed a great deal less terrifying now that Alan had a companion, someone who knew his way around. He didn't have the feeling that all eyes were on him, any more; he was just one of the crowd. It was good to have Hawkes at his side, even if he didn't fully trust the older man.

"The Directory Building's way across town," Hawkes said. "We can't walk it. Undertube or Overshoot?"

"What?"

"I said, do you want to take the Undertube or the Overshoot? Or doesn't it matter to you what kind of transportation we take?"

Alan shrugged. "One's as good as any other."

Hawkes fished a coin out of his

pocket and tossed it up. "Heads for Overshoot," he said, and caught the coin on the back of his left hand. He peered at it. "Heads it is. We take the Overshoot. This way."

They ducked into the lobby of the nearest building and took the elevator to the top floor. Hawkes stopped a man in a blue uniform and said, "Where's the nearest Shoot pickup?"

"Take the North Corridor bridge across to the next building. The pickup's there."

"Right."

Hawkes led the way down the corridor, up a staircase, and through a door. With sudden alarm Alan found himself on one of the bridges linking the skyscrapers. The bridge was no more than a ribbon of plastic with handholds at each side; it swayed gently in the breeze. "You better not look down," Hawkes said. "It's fifty stories to the bottom."

Alan kept his eyes stiffly forward. There was a good-sized crowd gathered on the top of the adjoining building, and he saw a metal platform of some kind.

A vender came up to them. Alan thought he might be selling tickets, but instead he held forth a tray of soft drinks. Hawkes bought one; Alan started to say he didn't want one when he felt a sharp kick in his ankle, and he hurriedly changed his mind and produced a coin.

When the vender was gone, Hawkes said, "Remind me to explain rotation to you when we get aboard the Shoot. And here it comes now."

Alan turned and saw a silvery torpedo come whistling through the air and settle in the landing-rack of the platform; it looked like a jet-powered vessel of some kind. A line formed, and Hawkes stuffed a ticket into Alan's hand.

"I have a month's supply of them," he explained. "It's cheaper that way."

They found a pair of seats together and strapped themselves in. With a roar and a hiss the Overshoot blasted away from the landing platform, and almost immediately came to rest on another building some distance away.

"We've just travelled about half a mile," Hawkes said. "This ship really moves."

A jet-propelled omnibus that travelled over the roofs of the buildings, Alan thought. Clever. He said, "Isn't there any public surface transportation in the city?"

"Nope. It was all banned about fifty years ago, on account of the congestion. Taxis and everything. You can still use a private car in some parts of the city, of course, but the only people who own them are those who like to impress their neighbors. Most of us take the Undertube or the Overshoot to get around."

The Shoot blasted off from its third stop and picked up passengers at its fourth. Alan glanced up front and saw the pilot peering over an elaborate radar setup.

"Westbound Shoots travel a hundred feet over the rooftops, eastbound ones two hundred. There hasn't been a major accident in years. But about this rotation—that's part of our new eco-

nomic plan."

"Which is?"

"Keep the money moving! Saving's discouraged. Spending's the thing now. The guilds are really pushing it. Instead of buying one piece of fruit from a vender, buy two. Spend, spend, spend! It's a little tough on the people in Free Status—we don't offer anything for sale, so we don't benefit much—but we don't amount to one per cent of the population, so who cares about us?"

"You mean it's sort of subversive not to spend money, is that it?" Alan asked.

Hawkes nodded. "You get in trouble if you're too openly penny-pinching. Keep the credits flowing; that's the way to be popular around here."

That had been his original mistake, Alan thought. He saw he had a lot to learn about this strange, unfriendly world if he were going to stay here long. He wondered if anyone had missed him back at the Enclave, yet. Maybe it won't take too long to find Steve, he thought. I should have left a note for Dad explaining I'd be back. But——

"Here we are," Hawkes said, nudging him. The door in the Overshoot's side opened and they got out quickly. They were on another rooftop.

Ten minutes later they stood outside an immense building whose walls were sleek slabs of green pellucite, shining with a radiant inner warmth of their own. The building must have been a hundred stories high, or more. It terminated in a burnished spire.

"This is it," Hawkes said. "The Central Directory Building. We'll try the Standard Matrix first."

A little dizzy, Alan followed without discussing the matter. Hawkes led him through a vast lobby big enough to hide the Valhalla in, past throngs of Earthers, into a huge hall lined on all sides by computer banks.

"Let's take this booth here," Hawkes suggested. They stepped into it; the door clicked shut automatically behind them. There was a row of blank forms in a metal rack against the inside of the door.

Hawkes pulled one out. Alan looked at it. It said, CENTRAL DIRECTORY MATRIX INFORMATION REQUISITION 1067432. STANDARD SERIES.

Hawkes took a pen from the rack. "We have to fill this out. What's your brother's full name?"

"Steve Donnell." He spelled it.

"Year of birth?"

Alan paused. "3576," he said finally.

Hawkes frowned, but wrote it down that way.

"Work card number—well, we don't know that. And they want five or six other numbers too. We'll just have to skip them. Better give me a full physical description as of the last time you saw him."

Alan thought a moment. "He looked pretty much like me. Height 73 inches, weight 172 or so, reddish-blonde hair, and so on."

"Don't you have a gene-record?"

Blankly, Alan said, "A what?"

Hawkes scowled. "I forgot—I keep forgetting you're a spacer. Well, if he's

not using his own name any more it may make things really tough. Gene-records make absolute identification possible. But if you don't have one——"

Whistling tunelessly, Hawkes filled out the rest of the form. When it came to REASON FOR APPLICATION, he wrote in, Tracing of missing relative.

"That just about covers it," he said finally. "It's a pretty lame application, but if we're lucky we may find him." He rolled the form up, shoved it into a gray metal tube, and dropped it in a slot in the wall.

"What happens now?" Alan asked.

"Now we wait. The application goes downstairs and the big computer goes to work on it. First thing they'll do is kick aside all the cards of men named Steve Donnell. Then they'll check them all against the physical description I supplied. Soon as they find a man who fits the bill, they'll stat his card and send it up here to us. We copy down the televector number and have them trace him down."

"The what number?"

"You'll see," Hawkes said, grinning. "It's a good system. Just wait."

They waited. One minute, two, three.

"I hope I'm not keeping you from something important," Alan said, breaking a long uncomfortable silence. "It's really good of you to take all this time, but I wouldn't want to inconvenience you if——"

"If I didn't want to help you," Hawkes said sharply, "I wouldn't be doing it. I'm Free Status, you know. That means I don't have any boss except me. Max Hawkes, Esquire. It's one of the few compensations I have for the otherwise lousy deal life handed me. So if I choose to waste an hour or two helping you find your brother, don't worry yourself about it."

A bell rang, once, and a gentle red light glowed over the slot. Hawkes reached in and scooped out the container that sat there.

Inside he found a rolled-up slip of paper. He pulled it out and read the message typed on it several times, pursing his lips.

"Well? Did they find him?"

"Read it for yourself," Hawkes said. He pushed the sheet over to Alan.

It said, in crisp capital letters, A SEARCH OF THE FILES REVEALS THAT NO WORK CARD HAS BEEN ISSUED ON EARTH IN THE PAST TEN YEARS TO STEVE DONNELL, MALE, WITH THE REQUIRED PHYSICAL CHARACTERISTICS.

Alan's face fell. He tossed the slip to the table and said, "Well? What do we do now?"

"Now," Hawkes said, "we go upstairs to the cubbyhole where they keep the Free Status people registered. We go through the same business there. I didn't really expect to find your brother here, but it was worth a look. It's next to impossible for a ship-jumping starman to buy his way into a guild and get a work card."

"Suppose he's not registered with the Free Status people?"

Hawkes smiled patiently. "Then, my

dear friend, you go back to your ship with your mission incomplete. If he's not listed upstairs, there's no way on Earth you could possibly find him."

The sign over the office door said REGISTRY OF FREE-STATUS LABOR FORCE, and under that ROOM 1104. Hawkes nudged the door open and they went in.

It was not an imposing room. A fat pasty-faced man sat behind a scarred neoplast desk, scribbling his signature on forms that he was taking from an immense stack. The room was lined with records of one sort or another, untidy, poorly assembled. There was dust everywhere.

The man at the desk looked up as they entered and nodded to Hawkes. "Hello, Max. Making an honest man of yourself at last?"

"Not on your life," Hawkes said. "I came up here to do some checking. Alan, this is Hines MacIntosh, Keeper of the Records. Hines, want you to meet a starman friend of mine. Alan Donnell."

"Starman, eh?" MacIntosh's pudgy face went suddenly grave. "Well, boy, I hope you know how to get along on an empty stomach. Free Status life isn't easy."

"No," Alan said. "You don't under——"

Hawkes cut him off. "He's just in the city on leave, Hines. His ship blasts off in a couple of days and he figures to be on it. But he's trying to track down his brother, who jumped ship nine years back."

MacIntosh nodded. "I suppose you drew a blank in the big room downstairs?"

"Yes."

"Not surprising. We get these ship-jumping starmen all the time up here; they never do get work cards, it seems. What's that thing on your shoulder, boy?" "He's from Bellatrix VII."

"Intelligent?"

"I should say so!" Rat burst in indignantly. "Just because I have a certain superficial physiological resemblance to a particular species of unpleasant Terran rodent——"

MacIntosh chuckled and said, "Ease up! I didn't mean to insult you, friend! But you'll have to apply for a visa if you're going to stay here more than three days."

Alan frowned. "Visa?"

Hawkes cut in: "The boy's going back on his ship, I told you. He won't need a visa, or the alien either."

"Be that as it may," MacIntosh said. "So you're looking for your brother, boy? Give me the specifications, now. Name, date of birth, and all the rest."

"His name is Steve Donnell, sir. Born 3576. He jumped ship in——"

"Born when, did you say?"

"They're spacers," Hawkes pointed out quietly.

MacIntosh shrugged. "Go ahead."

"Jumped ship in 3867—I think. It's so hard to tell what year it is on Earth."

"And physical description?"

"He was my twin," Alan said. "Identical twin."

MacIntosh jotted down the data Alan

gave him and transferred it to a punched card. "I don't remember any spacers of that name," he said, "but nine years is a long time. And we get so many starmen coming up here to take out Free Status."

"You do?"

"Oh, fifteen or twenty a year, at least—and that's in this office alone. They're forever getting stranded on leave and losing their ships. Why, there was one boy who was robbed and beaten in the Frisco Enclave and didn't wake up for a week. Naturally he missed his ship, and no other starship would sign him on. He's on Free Status now, of course. Well, let's see about Donnell Steve Male, shall we? You realize the law doesn't require Free Status people to register with us, and so we may not necessarily have any data on him in our computer files?"

"I realize that," Alan said tightly. He wished the chubby records-keeper would stop talking and start looking for Steve's records. It was getting along toward late afternoon now; he had come across from the Enclave around noontime, and certainly it was at least 1600 by now. He was getting hungry—and he knew he would have to start making plans for spending the night somewhere, if he didn't go back to the Enclave.

MacIntosh pulled himself laboriously out of his big webwork cradle and wheezed his way across the room to a computer shoot. He dropped the card in.

"It'll take a few minutes for them to make the search," he said, turning. He looked in both directions and went on, "Care for a drink? Just to pass the time?"

Hawkes grinned. "Good old Hinesy! What's in the inkwell today?"

"Scotch! Bottled in bond, best syntho stuff to come out of Caledonia in the last century!" MacIntosh shuffled back behind his desk and found three dingy glasses in one of the drawers; he set them out and uncorked a dark blue bottle plainly labelled INK.

He poured a shot for Hawkes and then a second shot; as he started to push it toward Alan, the starman shook his head. "Sorry, but I don't drink. Crewmen aren't allowed to have liquor aboard starships. Regulation." "Oh, but you're off-duty now!"

Alan shook his head a second time; shrugging, MacIntosh took the drink himself and put the unused third glass back in the drawer.

"Here's to Steve Donnell!" he said, lifting his glass high. "May he have had the good sense to register his name up here!"

They drank. Alan watched. Suddenly, the bell clanged and a tube rolled out of the computer shoot.

Alan waited tensely while MacIntosh crossed the room again, drew out the contents of the tube, and scanned them. The fat man's face was broken by a smile.

"You're in luck, starman. Your brother did register with us. Here's the stat of his papers."

Alan looked at them. The photostat was titled, APPLICATION FOR ADMISSION TO FREESTATUS LABOR FORCE,

and the form had been filled out in a handwriting Alan recognized immediately as Steve's: bold, untidy, the letters slanting slightly backward.

He had given his name as Steve Donnell, his date of birth as 3576, his chronological age as seventeen. He had listed his former occupation as Starman. The application was dated 4 June 3867, and a stamped notation on the margin declared that Free Status had been granted on 11 June 3867.

"So he did register," Alan said. "But now what? How do we find him?"

Hawkes reached for the photostat. "Here. Let me look at that." He squinted to make out the small print, then nodded and wrote down something. "His televector number's a local one. So far, so good." He turned the form over and glanced at the reproduced photo of Steve on the back. He looked up, comparing it with Alan.

"Dead ringers, these two. But I'll bet this one doesn't look much like this any more— not after nine years of Free Status!"

"It only pays off for the lucky few, eh, Max?" MacIntosh asked slyly.

Hawkes grinned. "Some of us make out all right. You have to have the knack, though. You can get awful hungry otherwise. Come on, kid—let's go up a little higher, now. Up to the televector files. Thanks for the help, Hinesy. You're a pal."

"Just doin' my job," MacIntosh said. "See you tonight as usual?"

"I doubt it," Hawkes replied. "I'm going to take the night off. I have it coming to me."

"That leaves the coast clear for us amateurs, doesn't it? Maybe I'll come out ahead tonight."

Hawkes smiled coldly. "Maybe you will. Let's go, kid."

They took the lift tube outside and rode it as high as it went. It opened out into the biggest room Alan had ever seen, bigger even than the main registry downstairs—a vast affair perhaps a hundred feet high and four hundred feet on the side.

And every inch of those feet was lined with computer elements.

"This is the nerve-center of the world," Hawkes said as they went in. "By asking the right questions you can find out where anybody in the world happens to be at this very moment."

"How can they do that?"

Hawkes nudged a tiny sliver of metal embedded in a ring on his finger. "Here's my televector transmitter. Everyone who has a work card or Free Status carries one, either on a ring or in a locket round his neck or somewhere else. Some people have them surgically embedded in their bodies. They give off resonance waves, each one absolutely unique; there's about one chance in a quadrillion of a duplicate pattern. The instruments here can pick up a given pattern and tell you exactly where the person you're looking for is."

"So we can find Steve without much trouble!"

"Probably." Hawkes' face darkened. "I've known it to happen that the televector pattern picks up a man who's

been at the bottom of the sea for five years. But don't let me scare you; Steve's probably in good shape."

He took out the slip of paper on which he had jotted down Steve's televector code number and transferred the information to an application blank.

"This system," Alan said. "It means no one can possibly hide anywhere on Earth unless he removes his televector transmitter."

"You can't do that, though. Strictly illegal. An alarm goes out whenever someone gets more than six inches from his transmitter, and he's picked up on suspicion. It's an automatic cancellation of your work card if you try to fool with your transmitter—or if you're Free Status a fine of ten thousand credits."

"And if you can't pay the fine?"

"Then you work it off in Government indenture, at a thousand credits a year—chopping up rocks in the Antarctica Penitentiary. The system's flawless. It has to be. With Earth as overpopulated as it is, you need some system of tracking down people—otherwise crime would be ten times as prevalent as it is now."

"There still is crime?"

"Oh, sure. There's always somebody who needs food bad enough to rob for it, even though it means a sure arrest. Murder's a little less common." Hawkes fed the requisition slip into the slot. "You'd be surprised what a deterrent the televector registry system is. It's not so easy to run off to South America and hide when anybody at all can come in here and find out exactly where you are."

A moment went by. Then the slot clicked and a glossy pink slip came rolling out.

Alan looked at it. It said:

TELEVECTOR REGISTRY

21 May 3876

Location of Donnell Steve, YC83-10j6490k37618

Time: 1643:21

There followed a street map covering some fifteen square blocks, and a bright red dot was imprinted in the center of the map.

Hawkes glanced at the map and smiled. "I thought that was where he would be!"

"Where's that?"

"68th Avenue and 423rd Street."

"Is that where he lives?" Alan asked.

"Oh, no. The televector tells you where he is right now. I'd venture to say that was his—ah—place of business."

Alan frowned. "What are you talking about?"

"That happens to be the address of the Atlas Games Parlor. Your brother Steve probably spends most of his working day there, when he has enough cash to get in. I know the place. It's a cheap joint where the payoffs are low but easy. It's the kind of place a low-budget man would frequent."

"You mean Steve's a gambler?"

Hawkes smiled. "Most Free Status men are. It's one of the few ways we can earn a living without getting a work card. There isn't any gamblers' guild. There are a few other ways, too, but

they're a lot less savory, and the televector surveillance makes it hard for a man to stay in business for long."

Alan moistened his lips. "What do you do?"

"Gamble. I'm in the upper brackets, though. As I say: some of us have the knack. I doubt if your brother does, though. After nine years he wouldn't still be working the Atlas if he had any dough."

Alan shrugged that off. "How do we get there? I'd like to go right away. I——"

"Patience, lad," Hawkes murmured. "There's plenty of time for that. When does your ship leave?"

"Couple of days."

"Then we don't need to rush right over to the Atlas now. Let's get some food in ourselves first. Then a good night's rest. We can go over there tomorrow."

"But my brother——"

"Your brother," Hawkes said, "has been in York City for nine years, and I'll bet he's spent every night for the last eight of them sitting in the Atlas. He'll keep till tomorrow. Let's get something to eat."

They ate in a dark and unappealing restaurant three blocks from the Central Directory Matrix Building. The place was crowded, as all Earth places seemed to be. They stood on line for nearly half an hour before being shown to a grease-stained table in the back.

The wall clock said 1732.

A robowaiter approached them, holding a menu board in its metal hands. Hawkes leaned forward and punched out his order; Alan took slightly longer about it, finally selecting protein steak, synthocoffee, and mixed vegetables. The robot clicked its acknowledgment and moved on to the next table.

"So my brother's a gambler," Alan began.

Hawkes nodded. "You say it as if you were saying, so my brother's a pickpocket, or so my brother's a cutpurse. It's a perfectly legitimate way of making a living." Hawkes' eyes hardened suddenly, and in a flat quiet voice added, "The way to stay out of trouble on Earth is to avoid being preachy, son. This isn't a pretty world. There are too many people on it, and not many can afford the passage out to Gamma Leonis IV or Algol VII or some of the nice uncluttered colony-worlds. So while you're in York City keep your eyes wide and your mouth zippered, and don't turn your nose up at the sordid ways people make their livings."

Alan felt his face go red, and he was happy to have the trays of food arrive at that moment, causing some sort of distraction. "Sorry, Max. I didn't mean to sound preachy."

"I know, kid. You lead a pretty sheltered life on those starships. And nobody can adjust to Earthside life in a day. How about a drink?" Alan started to say that he didn't drink, but kept the words back. He was on Earth, now, not aboard the Valhalla; he wasn't required to keep ship's regs. And he didn't want to be trying to look superior. "Okay. How about Scotch—is that the stuff MacIntosh was

drinking?"

"Fair enough," Hawkes said.

He signalled for a robot waiter, and after a moment the robot slithered up to them. Hawkes punched a lever on the robot's stomach and the metal creature began to click and glow. An instant later a panel in its stomach slid open and two glasses appeared within. The robot's wiry tentacles reached in, took out the drinks, and set them on the table. Hawkes dropped a coin in a slot in the robot's side, and the machine bustled away, its service completed.

"There you are," Hawkes said, pointing to the glass of amber-colored liquid. "Drink up." As if to set an example he lifted his own drink and tossed it down in one gulp, with obvious pleasure.

Alan picked up the little glass and held it before his eyes, staring at the man opposite him through its translucent depths. Hawkes appeared oddly distorted when viewed through the glass.

He grinned. He tried to propose a toast, but couldn't think of any appropriate words, so he simply upended the glass and drained its contents. The stuff seemed to burn its way down his throat and explode in his stomach; the explosion rose through his gullet and into his brain. For a moment he felt as if the top of his head had been blown off. His eyes watered.

"Pretty potent stuff!"

"It's the best there is," Hawkes said. "Those boys really know the formulas."

Alan felt a wave of dizziness, but it passed quickly; all that was left was a pleasant inner warmth, now. He pulled his tray toward him and attacked the synthetic meat and vegetables.

He ate quietly, making no attempt at conversation. Soft music bubbled up around them. He thought about his brother. So Steve was a gambler! And doing poorly at it, Hawkes said. He wondered if Steve would want to go back on the ship. He wondered also how it would be if Steve did agree to go back.

The old comradeship would be gone, he realized sadly. They had shared everything for seventeen years, grown up together, played together, worked together. Up till six weeks ago they had been so close that Alan could almost read Steve's mind, and Steve Alan's. They made a good team.

But that was finished, now. Steve would be a stranger to him aboard the Valhalla—an older, perhaps wiser man, with nine solid years of tough Earther life behind him. He would not be able to help but regard Alan as a kid, a greenhorn; it was natural. They would never be comfortable in each other's presence, with the old easy familiarity that was so close to telepathy. That nine-year gulf would see to that.

"Thinking about your brother, aren't you?"

Alan blinked. "How did you know?"

Grinning, Hawkes said, "A gambler has to know how to figure things. And it's written in permoscript all over your forehead anyway. You're wondering what the first face-to-face meeting's going to be like. I'll bet on it."

"I won't cover the bet. You'd win."

"You want to know how it'll be? I can tell you, Alan: you'll feel sick. Sick and bewildered and ashamed of the guy who used to be your brother. But that'll pass. You'll look behind the things the nine years did to him, and you'll see your brother back there. He'll see you, too. It won't be as bad as you're expecting."

Somehow Alan felt relieved. "You're sure of that?"

Hawkes nodded. "You know, I'm taking such a personal interest in this business because I've got a brother too. Had a brother."

"Had?"

"Kid about your age. Same problem I had, too: no guild. We were born into the street sweepers' guild, but neither of us could go for that, so we checked out and took Free Status. I went into gambling. He hung around the Enclave. He always wanted to be a spacer."

"What happened to him?"

"He pulled a fast one. Starship was in town and looking for a new galley-boy. Dave did some glib talking and got aboard. It was a fluke thing, but he made it."

"Which ship?" Alan asked.

"Startreader. Bound out on a hop to Beta Crucis XVIII. 465 light-years." Hawkes smiled faintly. "He left a year, year and a half ago. The ship won't be back on Earth again for nine hundred thirty years or so. I don't figure to be around that long." He shook his head. "Let's get out of here. People waiting for tables."

Out in the street again, Alan noticed that the sun was low in the sky; it was past 1800, and getting along toward evening. But the streets were not getting dark. From everywhere a soft glow was beginning to radiate—from the pavement, the buildings, everywhere. It was a gentle gleaming brightness that fell from the air; there was no perceptible change from day-illumination to night-illumination.

But it was getting late. And they would miss him back at the Enclave—unless Captain Donnell had discovered that Alan had gone into the Earther city, in which case he wouldn't be missed at all. Alan remembered sharply the way the Captain had calmly blotted the name of his son Steve from the Valhalla's roster as if Steve had never existed.

"Are we going to go over to the Atlas now?"

Hawkes shook his head. "Not unless you want to go in there alone?"

"Huh?"

"I can't go in there with you. I've got an A card, and that's a Class C joint."

"You mean even gambling places are classified and regulated and everything?"

Hawkes nodded. "It has to be that way. This is a very complicated society you've stumbled into, Alan. Look: I'm a first-rate gamesman. That's not boasting; it's empirical truth proven over and over again during the course of a fifteen-year career. I could make a fortune competing against beginners and dubs and has-beens, so they legislate against me. You make a certain annual income from

gambling and you go into Class A, and then you can't enter any of the lower-class joints like the Atlas. You slip under the Class A minimum three years in a row and you lose your card. I stay over the minimum."

"So I'll have to go after Steve myself. Well, in that case, thanks for all the help, and if you'll show me which Shoot I take to get to the Atlas——"

"Not so fast, son." Hawkes grasped Alan's wrist. "Even in a Class C dump you can lose plenty. And you can't just stand around hunting for your brother. Unless you're there as a learner you'll have to play."

"So what am I supposed to do?"

"I'll take you to a Class A place tonight. You can come in as a learner; they all know me. I'll try to show you enough about the game so you don't get rooked. Then you can stay over at my place and tomorrow we'll go up to the Atlas and look around for your brother. I'll have to wait outside, of course."

Alan shrugged. He was beginning to realize he was a little nervous about the coming meeting with Steve—and perhaps, he thought, a little extra delay would be useful. And he still had plenty of time to get back to the Valhalla after he saw Steve, even if he stayed in the city overnight.

"Well?" Hawkes said.

"Okay. I'll go with you."

This time they took the Undertube, which they reached by following a glowing sign and then an underground passageway. Alan rode down behind Hawkes on the moving ramp and found himself in a warm, brightly-lit underground world with stores, restaurants, newsboys hawking telefax sheets, milling swarms of homebound commuters.

They reached the entrance to a tube and Hawkes handed him a small oval object with figures engraved on it. "That's your tube-token. It goes in the slot."

They passed through the turnstile and followed signs indicating the West Side Tube. The tube was a long sleek affair, windowless, shaped like a bullet. The tube was already packed with commuters when they got aboard; there were no empty seats, of course, and everyone seemed to be jostling everyone else for the right to stand upright. The sign at the end of the tube said, Tube X#3174-WS.

The trip took only a few minutes of seemingly effortless gliding, and then they emerged far on the other side of the giant city. The neighborhood they were in was considerably less crowded; it had little of the mad hubbub of the downtown district.

A neon sign struck his eyes at once: SUPERIOR GAMES PARLOR. Under that in smaller letters was: CLASS A ESTABLISHMENT. A robot stood outside, a gleaming replica of the one he had tussled with earlier in the day.

"Class A only," the robot said as they came near. "This Games Parlor is for Class A only."

Hawkes stepped around him and broke the photo-contact on the door. Alan followed him in.

The place was dimly lit, as all

Earther pleasure-places seemed to be. Alan saw a double row of tables spreading to the back of the parlor. At each table was an earnest-looking citizen hunched over a board, watching the pattern of lights in front of him come and go, change and shift.

Another robot glided up to them. "May I see your card, please?" It purred.

Hawkes passed his card before the robot's photonic scanners and the robot clicked acknowledgment, stepping to one side and letting Hawkes pass. It turned to Alan and said, "May I see your card, please?"

"I don't——"

"He's with me," Hawkes said. "A learner."

A man in a dirty gray smock came up to them. "Evening, Max. Hinesy was here already and told me you weren't coming in tonight."

"I wasn't, but I changed my mind. I brought a learner along with me—friend of mine name of Alan Donnell. This is Joe Luckman, Alan. He runs this place."

Luckman nodded absently to Alan, who mumbled a greeting in return.

"Guess you want your usual table?" Luckman asked.

"If it's open," Hawkes said.

"Been open all evening."

Luckman led them down the long aisle to the back of the big hall, where there was a vacant table with one seat before it. Hawkes slid smoothly into the seat and told Alan to stand behind him and watch carefully.

"We'll start at the beginning of the next round," he said.

Alan looked around. Everywhere men were bent over the patterns of lights on the boards before them, with expressions of fierce concentration on their faces. Far in the corner Alan saw the pudgy figure of MacIntosh, the Keeper of the Records; MacIntosh was bathed in his own sweat, and sat rigid as if hypnotized.

Hawkes nudged him. "Keep your eyes on me. The others don't matter. I'm ready to get started."

Hawkes took a coin from his pocket and dropped it in a slot at the side of the board. It lit up. A crazy, shifting pattern of colored lights passed over it, restless, never pausing.

"What happens now?"

"You set up a mathematical pattern with these keys," Hawkes said, pointing to a row of enamelled studs along the side of the machine. "Then the lights start flashing, and as soon as they flash—at random, of course—into the pattern you've previously set up, you're the winner. The skill of the game comes in predicting the kind of pattern that will be the winning one. You've got to keep listening to the numbers that the croupier calls off, and fit them into your sequence."

Suddenly a bell rang loudly, and the board went dead. Alan looked around and saw that all the other boards in the hall were dark as well.

The man on the rostrum in the center of the hall cleared his throat and sang out, "Table 403 hits us for a hundred!

403! One hundred!"

A pasty-faced bald man at a table near theirs rose with a broad grin on his face and went forward to collect. Hawkes rapped sharply on the side of the table to get Alan's attention.

"Look here, now. You have to get a head start. As soon as the boards light up again, I have to begin setting up my pattern. I'm competing against everyone else here, you see. And the quickest man wins, usually. Of course, blind luck sometimes brings you a winner—but not very often."

Alan nodded and watched carefully as Hawkes' fingers flew nimbly over the controlling studs the instant the tables lit for the next round. The others nearby were busy doing the same thing, but few of them set about it with the air of cocky jauntiness that Hawkes wore.

Finally he stared at the board in satisfaction and sat back. The croupier pounded three times with a little gavel and said, "103 sub-prime 5."

Hastily Hawkes made a correction in his equation. The lights on the board flickered and faded, moving faster than Alan could see.

"377 third-quadrant 7."

Again a correction. Hawkes sat transfixed, staring intently at the board. The other players were similarly entranced, Alan saw. He realized it was possible for someone to become virtually hypnotized by the game, to spend days on end sitting before the board.

He forced himself to follow Hawkes' computations as number after number was called off. He began to see the logical pattern of the game.

It was a little like astrogation, in which he had had the required preliminary instruction. When you worked out a ship's course, you had to keep altering it to allow for course deflection, effects of planetary magnetic fields, meteor swarms, and such obstacles— and you had to be one jump ahead of the obstacles all the time.

It was the same here. The pilot board at the croupier's rostrum had a prearranged mathematical pattern on it. The idea of the game was to set up your own board in the identical pattern. As each succeeding coordinate on the graph was called out, you recomputed in terms of the new probabilities, rubbing out old equations and substituting new ones.

There was always the mathematical chance that a pattern set up at random would be identical to the master control pattern—but that was a pretty slim chance. It took brains to win at this game. The man whose board was first to match the pilot pattern won.

Hawkes worked quietly, efficiently, and lost the first four rounds. Alan commiserated. But the gambler snapped, "Don't waste your pity. I'm still experimenting. As soon as I've figured out the way the numbers are running tonight, I'll start raking it in."

It sounded boastful to the starman, but Hawkes won on the fifth round, matching the hidden pattern in only six minutes. The previous four rounds had taken from nine to twelve minutes before a winner appeared. The croupier, a small, sallow-faced chap, shoved a

stack of coins and a few bills at Hawkes when he went to the rostrum to claim his winnings. A low murmur rippled through the hall; Hawkes had evidently been recognized.

His take was a hundred credits. In less than an hour, he was already seventy-five credits to the good. Hawkes' sharp eyes glinted brightly; he was in his element now, and enjoying it.

The sixth round went to a bespectacled round-faced man three tables to the left, but Hawkes won a hundred credits each on the seventh and eighth rounds, then lost three in a row, then plunged for a heavy stake in his ninth round and came out ahead by five hundred credits.

So Hawkes had won four times in nine rounds, Alan thought. And there were at least a hundred people in the hall. Even assuming the gambler did not always have the sort of luck he was having now, that meant most people did not win very often, and some did not win at all.

As the evening went along, Hawkes made it look simple. At one point he won four rounds in a row; then he dropped off for a while, but came back for another big pot half an hour later. Alan estimated Hawkes' night's work had been worth more than a thousand credits so far.

The gambler pushed his winnings to fourteen hundred credits, while Alan watched; the fine points of the game became more comprehensible to him with each passing moment, and he longed to sit down at the table himself. That was impossible, he knew; this was a Class A parlor, and a rank beginner such as himself could not play.

But then Hawkes began to lose. Three, four, five rounds in a row slipped by without a win. At one point Hawkes committed an elementary mistake in arithmetic that made Alan cry out; Hawkes turned and silenced him with a fierce bleak scowl, and Alan went red.

Six rounds. Seven. Eight. Hawkes had lost nearly a hundred of his fourteen hundred credits. Luck and skill seemed to have deserted him simultaneously. After the eleventh consecutive losing round, Hawkes rose from the table, shaking his head bitterly.

"I've had enough. Let's get out of here."

He pocketed his winnings—still a healthy twelve hundred credits, despite his late-evening slump—and Alan followed him out of the parlor into the night. It was late now, past midnight. The streets, fresh and clean, were damp. It had rained while they were in the parlor, and Alan realized wryly he had been so absorbed by the game that he had not even noticed.

Crowds of home-going Yorkers moved rapidly through the streets. As they made their way to the nearest Undertube terminal, Alan broke the silence. "You did all right tonight, didn't you?"

"Can't complain."

"It's too bad you had that slump right at the end. If you'd quit half an hour earlier you'd be two hundred credits richer."

Hawkes smiled. "If you'd been born a couple of hundred years later, you'd be a lot smarter."

"What is that supposed to mean?" Alan felt annoyed by Hawkes' remark.

"Simply that I lost deliberately toward the end." They turned into the Undertube station and headed for the ticket windows. "It's part of a smart gambler's knowhow to drop a few credits deliberately now and then."

"Why?"

"So the jerks who provide my living keep on coming back," Hawkes said bluntly. "I'm good at that game. Maybe I'm the best there is. I can feel the numbers with my hands. If I wanted to, I could win four out of five times, even at a Class A place."

Alan frowned. "Then why don't you? You could get rich!"

"I am rich," Hawkes said in a tone that made Alan feel tremendously foolish. "If I got much richer too fast I'd wind up with a soft burn in the belly from a disgruntled customer. Look here, boy: how long would you go back to that casino if one player took 80% of the pots, and a hundred people competed with you for the 20% he left over? You'd win maybe once a month, if you played full time every day. In a short time you'd be broke, unless you quit playing first. So I ease up. I let the others win about half the time. I don't want all the money the mint turns out—just some of it. It's part of the economics of the game to let the other guys take a few pots."

Alan nodded. He understood. "And you don't want to make them too jealous of you. So you made sure you lost consistently for the final half hour or so, and that took the edge off your earlier winning in their minds."

"That's the ticket!"

The Undertube pulled out of the station and shot bullet-like through its dark tunnel. Silently, Alan thought about his night's experience. He saw he still had much, very much to learn about life on Earth.

Hawkes had a gift—the gift of winning. But he didn't abuse that gift. He concealed it a little, so the people who lacked his talent did not get too jealous of him. Jealousy ran high on Earth; people here led short ugly lives, and there was none of the serenity and friendliness of life aboard a starship.

He felt very tired, but it was just physical fatigue; he felt wide awake mentally. Earth life, for all its squalor and brutality, was tremendously exciting compared with shipboard existence. It was with a momentary pang of something close to disappointment that he remembered he would have to report back to the Valhalla in several days; there were so many fascinating aspects of Earth life he still wanted to explore.

The Undertube stopped at a station labelled Hasbrouck. "This is where we get off," Hawkes told him.

They took a slidewalk to street level. The street was like a canyon, with towering walls looming up all around. And some of the gigantic buildings seemed quite shabby-looking by the streetlight. Obviously they were in a less respectable part of the city.

"This is Hasbrouck," Hawkes said. "It's a residential section. And there's where I live."

He pointed to the tarnished chrome entrance of one of the biggest and shabbiest of the buildings on the street. "Be it ever so humble, there's no place like North Hasbrouck Arms. It's the sleaziest, cheapest, most rundown tenement in one hemisphere, but I love it. It's a real palace."

Alan followed him through a gate that had once been imposing; now it swung open rather rustily as they broke the photobeam in front of it. The lobby was dark and dimly lit, and smelled faintly musty.

Alan was unprepared for the shabbiness of the house where the gambler lived. A moment after he spoke, he realized the question was highly impertinent, but by then it was too late: "I don't understand, Max. If you make so much money gambling, why do you live in a place like this? Aren't there any better—I mean——"

An unreadable expression flitted briefly across the gambler's lean face. "I know what you mean. Let's just say that the laws of this planet discriminate slightly against Free Status people like yours truly. They require us to live in approved residences."

"But this is practically a slum."

"Forget the practically. This is the raw end of town, and no denying it. But I have to live here." They entered a creaky old elevator decorated with too much chrome, most of it chipped, and Hawkes pressed 106. "When I first moved in here, I made up my mind I'd bribe my way into a fancier neighborhood as soon as I had the cash. But by the time I had enough to spare I didn't feel like moving, you see. I'm sort of lazy."

The elevator stopped with a jarring jolt at the hundred-sixth floor. They passed down a narrow, poorly-lit corridor. Hawkes paused suddenly in front of a door, pressed his thumb against the doorplate, and waited as it swung open in response to the imprint of his fingerprints against the sensitive electronic grid.

"Here we are," he said.

It was a three-room apartment that looked almost as old and as disreputable as the rooms in the Enclave. But the furniture was new and attractive; these were not the rooms of a poor man. An elaborate audio system took up one entire wall; elsewhere, Alan saw books of all kinds, tapes, a tiny mounted globe of light-sculpture within whose crystal interior abstract colors flowed kaleidoscopically, a handsome robot bar.

Hawkes gestured Alan to a seat; Alan chose a green lounge-chair with quivering springs and stretched out. He did not want to go to sleep; he wanted to stay up half the night and talk.

The gambler busied himself at the bar a moment and returned with two drinks. Alan looked at the glass a moment: the drink was bright yellow in color, sparkling. He sipped it. The flavor was gentle but striking, a mixture of two or three tastes and textures that chased each other round Alan's tongue.

"I like it. What is it?"

"Wine from Antares XIII. I bought it for a hundred credits a bottle last year. Still have three bottles left, too. I go easy on it; the next ship from Antares XIII won't be in for fourteen more years."

The drink made Alan mellow and relaxed. They talked a while, and he hardly noticed the fact that the time was getting along toward 0300 now, long past his shiptime bunk-hour. He didn't care. He listened to every word Hawkes had to say, drinking it in with the same delight he felt when drinking the Antarean wine. Hawkes was a complex, many-faceted character; he seemed to have been everywhere on Earth, done everything the planet had to offer. And yet there was no boastfulness in his tone as he spoke of his exploits; he was simply stating facts.

Apparently his income from gambling was staggering; he averaged nearly a thousand credits a night, night in and night out. But a note of plaintiveness crept into his voice: success was boring him, he had no further goals to shoot for. He stood at the top of his profession, and there were no new worlds for him to conquer. He had seen and done everything, and lamented it.

"I'd like to go to space someday," he remarked. "But of course that's out. I wouldn't want to rip myself away from the year 3876 forever. You don't know what I'd give to see the suns come up over Albireo V, or to watch the thousand moons of Capella XVI. But I can't do it." He shook his head gravely. "Well, I better not dream. I like Earth and I like the sort of life I lead. And I'm glad I ran into you, too—we'll make a good team, you and me, Donnell."

Alan had been lulled by the sound of Hawkes' voice—but he snapped to attention now, surprised. "Team? What are you talking about?"

"I'll take you on as my protege. Make a decent gambler out of you. Set you up. We can go Traveling together, see the world again. You've been to space; you can tell me what it's like out there. And——"

"Hold on," Alan said sharply. "You've got things mixed up a little bit. I'm going to Procyon on the Valhalla at the end of this week. I appreciate everything you've done for me, but if you think I'm going to jump ship permanently and spend the rest of my life——"

"You'll stay on Earth, all right," Hawkes said confidently. "You're in love with the place. You know yourself you don't want to spend the next seven decades of your life shuttling around in your old man's starship. You'll check out and stay here. I know you will."

"I'll bet you I don't!"

"That bet is herewith covered," Hawkes drawled. "I never pass up a sure thing. Is ten to one okay—your hundred against my thousand that you'll stay?"

Alan scowled angrily. "I don't want to bet with you, Max. I'm going back on the Valhalla. I——"

"Go ahead. Take my money, if you're so sure."

"All right, I will! A thousand credits

won't hurt me!" Suddenly he had no further desire to listen to Hawkes talk; he rose abruptly and gulped down the remainder of his drink.

"I'm tired. Let's get some sleep."

"Fair enough," Hawkes said. He got up, touched a button in the wall, and a panel slid back, exposing a bed. "You sack out here. I'll wake you in the morning and we'll go looking for your brother Steve."

Alan woke early the next morning, but it was Rat, not Hawkes, who pulled him out of sleep. The little extraterrestrial was nibbling on his ear.

Bleary-eyed, Alan sat up and blinked. "Oh—it's you. I thought you were on a silence strike."

"There wasn't anything I wanted to say, so I kept quiet. But I want to say some things now, before your new friend wakes up."

The Bellatrician had been silent all the past evening, tagging along behind Alan and Hawkes like a faithful pet, but keeping his mouth closed. "Go ahead and say them, then," Alan told him.

"I don't like this fellow Hawkes. I think you're in for trouble if you stick with him."

"He's going to take me to the Atlas to get Steve."

"You can get to the Atlas yourself. He's given you all the help you'll need."

Alan shook his head. "I'm no baby. I can take care of myself, without your help."

The little alien creature shrugged. "Suit yourself. But I'll tell you one thing, Alan: I'm going back to the Valhalla, whether you are or not. I don't like Earth, or Hawkes either. Remember that."

"Who said I was staying here? Didn't you hear me bet Max that I'd go back?"

"I heard you. I say you're going to lose that bet. I say this Hawkes is going to fast-talk you into staying here—and if I had any need for money I'd put down a side-bet on Hawkes' side."

Alan laughed. "You think you know me better than I know myself. I never for a minute thought of jumping ship."

"Has my advice ever steered you wrong? I'm older than you are, Alan, and ten or twenty times smarter. I can see where you're heading. And——"

Alan grew suddenly angry. "Nag, nag, nag! You're worse than an old woman! Why don't you keep quiet the way you did last night, and leave me alone? I know what I'm doing, and when I want your advice I'll ask for it."

"Have it your own way," Rat said. His tone was mildly reproachful. Alan felt abashed at having scolded the little alien that way, but he did not know how to make proper amends; besides, he was annoyed at Rat's preachiness. He and Rat had been together too long. The Bellatrician probably thought he was still only ten years old and in need of constant advice.

He rolled over and went back to sleep. About an hour later, he was awakened again, this time by Hawkes. He dressed and they ate—good real food, no synthetics, served by Hawkes' autochef—and then set out for the Atlas Games Parlor, 68th Avenue and 423rd Street, in Upper York City. The time was

1327 when they emerged on the street. Hawkes assured him that Steve would already be at "work"; most unsuccessful gamblers started making the rounds of the parlors in early afternoon.

They took the Undertube back to the heart of the city and kept going, into the suburb of Upper York. Getting out at the 423rd Street terminal, they walked briskly through the narrow crowded streets toward 68th Avenue.

When they were a block away Alan spotted the sign, blinking on and off in watery red letters: ATLAS GAMES PARLOR. A smaller sign proclaimed the parlor's Class C status, which allowed any mediocre player to make use of its facilities.

As they drew near Alan felt a tingle of excitement. This was what he had come to the Earther city for in the first place—to find Steve. For weeks he had been picturing the circumstances of this meeting; now it was about to take place.

The Atlas was similar to the other games parlor where Alan had had the set-to with the robohuckster; it was dark-windowed and a shining blue robot stood outside, urging passersby to step inside and try their luck. Alan moistened his dry lips; he felt cold and numb inside. He won't be there, he thought; he won't be there.

Hawkes took a wad of bills from his wallet. "Here's two hundred credits for you to use at the tables while you're looking around. I'll have to wait outside. There'd be a royal uproar if a Class A man ever set foot inside a place like the Atlas."

Alan smiled nervously. He was pleased that Hawkes was unable to come with him; he wanted to handle the problem by himself, for a change. And he was not anxious for the gambler to witness the scene between him and Steve.

If Steve were inside, that is.

He nodded tightly and walked toward the door. The robohuckster outside chattered at him, "Come right on, sir, step inside. Five credits can get you a hundred here. Right this way."

"I'm going," Alan said. He passed through the photobeam and into the games parlor. Another robot came sliding up to him and scanned his features.

"This is a Class C establishment, sir. If your card is any higher than Class C you cannot compete here. Would you mind showing me your card, sir?"

"I don't have any. I'm an unrated beginner." That was what Hawkes had told him to say. "I'd like a single table, please."

He was shown to a table to the left of the croupier's booth. The Atlas was a good bit dingier than the Class A parlor he had been in the night before; its electroluminescent light-panels fizzed and sputtered, casting uncertain shadows here and there. A round was in progress; figures were bent busily over their boards, altering their computations and changing their light-patterns.

Alan slid a five-credit piece into the slot and, while waiting for the round to finish and the next to begin, looked around at his fellow patrons. In the semidark that prevailed it was difficult to

make out faces. He would have trouble recognizing Steve.

A musky odor hung low over the hall, sweet, pungent, yet somehow unpleasant. He realized he had experienced that odor before, and tried to remember—yes. Last night in the other games parlor he had smelled a wisp of the fragrance, and Hawkes had told him it was a narcotic cigarette. It lay heavy in the stale air of the Class C parlor. Patrons stared with fanatic intensity at the racing pattern of lights before them. Alan glanced from one to the next. A bald head whose dome glinted bright gold in the dusk knotted his hands together in an anguish of indecision. A slim, dreamy-eyed young man gripped the sides of the table frenziedly as the numbers spiralled upward. A fat woman in her late forties, hopelessly dazed by the intricate game, slumped wearily in her seat.

Beyond that he could not see. There were other patrons on the far side of the rostrum; perhaps Steve was over there. But it was forbidden for anyone to wander through the rows of tables searching for a particular player.

The gong rang, ending the round. "Number 322 wins a hundred credits," barked the croupier.

The man at Table 322 shambled forward for his money. He walked with a twisted shuffle; his body shook palsiedly. Hawkes had warned him of these, too—the dreamdust addicts, who in the late stages of their addiction became hollow shells of men, barely able to walk. He took his hundred credits and returned to his table without smiling. Alan shuddered and looked away. Earth was not a pretty world. Life was good if you had the stream running with you, as Hawkes did—but for each successful one like Hawkes, how many fought unsuccessfully against the current and were swept away into dreamdust or worse?

Steve. He looked down the row for Steve.

And then the board lit up again, and for the first time he was playing.

He set up a tentative pattern; golden streaks flitted across the board, mingling with red and blue blinkers. Then the first number came. Alan integrated it hastily and realized he had constructed a totally worthless pattern; he wiped his board clean and set up new figures, based on the one number he had. Already, he knew, he was hopelessly far behind the others.

But he kept with it as the minutes crawled past. Sweat dribbled down his face and neck. He had none of Hawkes' easy confidence with the board's controls; this game was hard work for a beginner. Later, perhaps, some of the steps would become automatic, but now——

"Seventy-eight sub twelve over thirteen," came the droning instructions, and Alan pulled levers and twisted ratchets to keep his pattern true. He saw the attraction the game held for the people of Earth: it required such deep concentration, such careful attention, that one had no time to ponder other problems. It was impossible to think and

compete at the same time. The game offered perfect escape from the harsh realities of Earther existence.

"Six hundred twelve sigma five."

Again Alan recompensated. His nerves tingled; he felt he must be close to victory. All thought of what he had come here for slipped away; Steve was forgotten. Only the flashing board counted, only the game.

Five more numbers went by. Suddenly the gong rang, indicating that someone had achieved a winning pattern, and it was like the fall of a headsman's axe to Alan. He had lost. That was all he could think of. He had lost.

The winner was the dreamy-eyed youth at Table 166, who accepted his winnings without a word and took his seat. As Alan drew out another five-credit piece for the next round, he realized what he was doing.

He was being caught up in the nerve-stretching excitement of the game. He was forgetting Steve, forgetting the waiting Hawkes outside.

He stretched back in his seat and peered as far down the row as he could see. No sign of Steve there; he had to be on the other side of the croupier. Alan decided to do his best to win; that way he could advance to the rostrum and scan the other half of the hall.

But the game fled by too quickly; he made a false computation on the eleventh number and watched in dismay as his pattern drew further and further away from the numbers being called off. He drove himself furiously, trying to make amends, but it was impossible. The winner was the man at Table 217, on the other side. He was a lantern-jawed giant with the powerful frame of a longshoreman, and he laughed in pleasure as he collected his money.

Three more rounds went by; Alan picked up increasing skill at the game, but failed to win. He saw his shortcoming, but could not do anything to help it: he was unable to extrapolate ahead. Hawkes was gifted with the knack of being able to extend probable patterns two or three moves into the future; Alan could only work with the given, and so he never made the swift series of guesses which led to victory. He had spent nearly an hour in the parlor now, fruitlessly.

The next round came and went. "Table 111 takes us for a hundred fifty credits," came the croupier's cry. Alan relaxed, waiting for the lucky winner to collect and for the next round to begin.

The winner reached the centrally located rostrum. Alan looked at him. He was tall, fairly young—in his thirties, perhaps—with stooped shoulders and a dull glazedness about his eyes. He looked familiar.

Steve.

Feeling no excitement now that the quest had reached success, Alan slipped from his seat and made his way around the croupier's rostrum and down the far aisle. Steve had already taken his seat at Table 111. Alan came up behind him, just as the gong sounded to signal the new round.

Steve was hunched over the board,

calculating with almost desperate fury. Alan touched his shoulder.

"Steve?"

Without looking up Steve snapped, "Get out of here, whoever you are! Can't you see I'm busy?"

"Steve, I——"

A robot sidled up to Alan and grasped him firmly by the arm. "It is forbidden to disturb the players while they are engaged in the game. We will have to eject you from this parlor."

Angrily Alan broke loose from the robot's grasp and leaned over Steve. He shook him by the shoulder, roughly, trying to shake loose his mind from the flickering games board.

"Steve, look up! It's me—Alan—your brother!"

Steve slapped at Alan's hand as he would at a fly. Alan saw other robots converging on him from various points in the room. In a minute they'd hurl him out into the street.

Recklessly he grabbed Steve by the shoulders and spun him around in his seat. A curse tumbled from Steve's lips; then he fell strangely silent.

"You remember me, Steve? Your brother Alan. Your twin brother, once."

Steve had changed, certainly. His hair was no longer thick and curly; it seemed to have straightened out, and darkened a little. Wrinkles seamed his forehead; his eyes were deep-set and surrounded by lines. He was slightly overweight, and it showed. He looked terribly tired. Looking at him was like looking at a comic mirror that distorted and altered your features. But there was nothing comic about Steve's appearance.

In a hoarse whisper he said, "Alan?"

"Yes."

Alan felt robot arms grasping him firmly. He struggled to break loose, and saw Steve trying to say something, only no words were coming. Steve was very pale.

"Let go of him!" Steve said finally, "He—he wasn't disturbing me."

"He must be ejected. It is the rule."

Conflict traced deep lines on Steve's face. "All right, then. We'll both leave."

The robots released Alan, who rubbed his arms ruefully. Together they walked up the aisle and out into the street.

Hawkes stood waiting there.

"I see you've found him. It took long enough."

"M-Max, this is my brother, Steven Donnell." Alan's voice was shaky with tension. "Steve, this is a friend of mine. Max Hawkes."

"You don't need to tell me who he is," Steve said. His voice was deeper and harsher than Alan remembered it. "Every gamesman knows Hawkes. He's the best there is." In the warm daylight, Steve looked even older than the twenty-six years that was his chronological age. To Alan's eyes he seemed to be a man who had been kicked around by life, a man who had not yet given up but who knew he didn't stand much of a chance for the future.

And he looked ashamed. The old sparkle was gone from his brother's

eyes. Quietly Steve said, "Okay, Alan. You tracked me down. Call me whatever names you want to call me and let me get about my business. I don't do quite as well as your friend Hawkes, and I happen to be in need of a lot of cash in a hurry."

"I didn't come to call you names. Let's go someplace where we can talk," Alan said. "There's a lot for us to talk about."

They adjourned to a small tavern three doors down 68th Avenue from the games parlor, an old-fashioned tavern with manually operated doors and stuffed moose heads over the bar. Alan and Hawkes took seats next to each other in a booth in back; Steve sat facing them.

The barkeep came scuttling out—no robot in here, just a tired-faced old man—and took their orders. Hawkes called for beer, Steve for whiskey; Alan did not order.

He sat staring at his brother's oddly changed face. Steve was twenty-six. From Alan's seventeen-year-old vantage-point, that seemed tremendously old, well past the prime of life.

He said, "The Valhalla landed on Earth a few days ago. We're bound out for Procyon in a few days."

"So?"

"The Captain would like to see you again, Steve."

Steve stared moodily at his drink without speaking, for a long moment. Alan studied him. Less than two months had passed for Alan since Steve had jumped ship; he still remembered how his twin had looked. There had been something smouldering in Steve's eyes then, a kind of rebellious fire, a smoky passion. That was gone now. It had burned out long ago. In its place Alan saw only tiny red veins—the bloodshot eyes of a man who had been through a lot, little of it very pleasant.

"Is that the truth?" Steve asked. "Would he like to see me? Or wouldn't he just prefer to think I never was born at all?"

"No."

"I know the Captain—Dad—pretty well. Even though I haven't seen him in nine years. He'd never forgive me for jumping ship. I don't want to pay any visits to the Valhalla, Alan."

"Who said anything about visiting?"

"Then what were you talking about?"

"I was talking about going back into the Crew," Alan said quietly.

The words seemed to strike Steve like physical blows. He shuddered a little and gulped down the drink he held clutched in tobacco-stained fingers. He looked up at Alan, finally. "I can't. It's impossible. Flatly impossible."

"But——"

Alan felt Hawkes' foot kick him sharply under the table. He caught the hint, and changed the subject. There was time to return to it later.

"Okay, let's skip it for now. Why don't you tell me about your life on Earth these last nine years?"

Steve smiled sardonically. "There's not much to tell, and what there is is a pretty dull story. I came across the

bridge from the Enclave last time the Valhalla was in town, and came over into York City all set to conquer the world, become rich and famous, and live happily ever after. Five minutes after I set foot on the Earther side of the river I was beaten up and robbed by a gang of roving kids. It was a real fine start."

He signalled the waiter for another drink. "I guess I must have drifted around the city for two weeks or more before the police found me and picked me up for vagrancy. By that time the Valhalla had long since hoisted for Alpha C—and didn't I wish I was on it! Every night I used to dream I had gone back on the ship. But when I woke up I always found out I hadn't.

"The police gave me an education in the ways of Earther life, complete with rubber hoses and stingrays, and when they were through with me I knew all about the system of work cards and free status. I didn't have a credit to my name. So I drifted some more. Then I got sick of drifting and tried to find a job, but of course I couldn't buy my way in to any of the hereditary guilds. Earth has enough people of her own; she's not interested in finding jobs for kid spacemen who jump ship.

"So I starved a little. Then I got tired of starving. So about a year after I first jumped ship I borrowed a thousand credits from somebody foolish enough to lend them, and set myself up as a professional gambler on Free Status. It was the only trade I could find that didn't have any entrance requirements."

"Did you do well?"

"Yeah. Very well. At the end of my first six months I was fifteen hundred credits in debt. Then my luck changed; I won three thousand credits in a single month and got shifted up to Class B." Steve laughed bitterly. "That was beautiful, up there. Inside of two more months I'd not only lost my three thousand, I was two thousand more in hock. And that's the way it's been going ever since. I borrow here, win a little to pay him back, or lose a little and borrow from someone else, win a little, lose a little—round and round and round. A swell life, Alan. And I still dream about the Valhalla once or twice a week."

Steve's voice was leaden, dreary. Alan felt a surge of pity. The swashbuckling, energetic Steve he had known might still be there, inside this man somewhere, but surrounding him were the scars of nine bitter years on Earth.

Nine years. It was a tremendous gulf.

Alan caught his breath a moment. "If you had the chance to go back into the Crew, no strings attached, no recriminations—would you take it?"

For an instant the old brightness returned to Steve's eyes. "Of course I would! But——"

"But what?"

"I owe seven thousand credits," Steve said. "And it keeps getting worse. That pot I won today, just before you came over to me, that was the first take I'd had in three days. Nine years and I'm still a Class C gambler. We can't all be as good as Hawkes here. I'm lousy—but what other profession could I go into, on

an overcrowded and hostile world like this one?"

Seven thousand credits, Alan thought. It was a week's earnings for Hawkes—but Steve would probably be in debt the rest of his life.

"Who do you owe this money to?" Hawkes asked suddenly.

Steve looked at him. "The Bryson syndicate, mostly. And Lorne Hollis. The Bryson people keep a good eye on me, too. There's a Bryson man three booths up who follows me around. If they ever saw me going near the spacefield they'd be pretty sure to cut me off and ask for their money. You can't welsh on Bryson."

"Suppose it was arranged that your debts be cancelled," Hawkes said speculatively.

Steve shook his head. "No. I don't want charity. I know you're a Class A and seven thousand credits comes easy to you, but I couldn't take it. Skip it. I'm stuck here on Earth for keeps, and I'm resigned to it. I made my choice, and this is what I got."

"Listen to reason," Alan urged. "Hawkes will take care of the money you owe. And Dad will be so happy to see you come back to the ship again——"

"Like Mars he'll be happy! See me come back, beaten up and ragged, a washed-out old man at twenty-six? No, sir. The Captain blotted me out of his mind a long time ago, and he and I don't have any further business together."

"You're wrong, Steve. He sent me into the Earther city deliberately to find you. He said to me, 'Find Steve and urge him to come back to the ship.' He's forgiven you completely," Alan lied. "Everyone's anxious to have you come back on board."

For a moment Steve sat silent, indecisive, frowning deeply. Then he made up his mind. He shook his head. "No—both of you. Thanks, but I don't want any. Keep your seven thousand, Hawkes. And you, Alan—go back to the ship and forget all about me. I don't even deserve a second chance."

"You're wrong!" Alan started to protest, but a second time Hawkes kicked him hard, and he shut up. He stared curiously at the gambler.

"I guess that about settles it," Hawkes observed. "If the man wants to stay, we can't force him."

Steve nodded. "I have to stay on Earth. And now I'd better get back to the games parlor—I can't waste any time, you know. Not with a seven thousand credit backlog to make up."

"Naturally. But there's time for one more drink, isn't there? On me. Maybe you don't want my money, but let me buy you a drink."

Steve grinned. "Fair enough."

He started to wave to the bartender, but Hawkes shot out an arm quickly and blocked off the gesture. "He's an old man and he's tired. I'll go to the bar and order." And before Steve could protest, Hawkes had slipped smoothly out of the booth and was on his way forward to the bar.

Alan sat facing his brother. He felt pity. Steve had been through a lot; the freedom he had longed for aboard ship had had a heavy price. And was it free-

dom, to sit in a crowded games parlor on a dirty little planet and struggle to get out of debt?

There was nothing further he could say to Steve. He had tried, and he had failed, and Steve would remain on Earth. But it seemed wrong. Steve did deserve a second chance. He had jumped ship and it had been a mistake, but there was no reason why he could not return to his old life, wiser for the experience. Still, if he refused——

Hawkes came back bearing two drinks—another beer for himself and a whiskey for Steve. He set them out on the table and said, "Well, drink up. Here's hoping you make Class A and stay there."

"Thanks," Steve said, and drained his drink in a single loud gulp. His eyes widened; he started to say something, but never got the words out. He slumped down in his seat and his chin thumped ringingly against the table.

Alan looked at Hawkes in alarm. "What happened to him? Why'd he pass out?"

Hawkes smiled knowingly. "An ancient Earth beverage known as the Mickey Finn. Two drops of a synthetic enzyme in his drink; tasteless, but extremely effective. He'll be asleep for ten hours or more."

"How'd you arrange it?"

"I told the bartender it was in a good cause, and he believed me. You wait here, now. I want to talk to that Bryson man about your brother's debts, and then we'll spirit him out to the spaceport and dump him aboard the Valhalla before he wakes up."

Alan grinned. He was going to have to do some explaining to Steve later, but by that time it would be too late; the starship would be well on its way to Procyon. It was a dirty trick to play, he thought, but it was justifiable. In Hawkes' words, it was in a good cause.

Alan put his arms around his brother's shoulders and gently lifted him out of the chair; Steve was surprisingly light, for all his lack of condition. Evidently muscle weighed more than fat, and Steve had gone to fat. Supporting his brother's bulk without much trouble, Alan made his way toward the entrance to the bar. As he went past the bartender, the old man smiled at him. Alan wondered what Hawkes had said to him.

Right now Hawkes was three booths up, leaning over and taking part in an urgent whispered conference with a thin dark-faced man in a sharply tailored suit. They reached some sort of agreement; there was a handshake. Then Hawkes left the booth and slung one of Steve's dangling arms around his own shoulder, easing the weight.

"There's an Undertube that takes us as far as Carhill Boulevard and the bridge," Hawkes said. "We can get a ground vehicle there that'll go on through the Enclave and out to the spacefield."

The trip took nearly an hour. Steve sat propped up between Alan and Hawkes, and every now and then his head would loll to one side or another, and he would seem to be stirring; but

he never woke. The sight of two men dragging a third along between them attracted not the slightest attention as they left the Undertube and climbed aboard the spacefield bus. Apparently in York City no one cared much about what went on; it made no difference to the busy Earthers whether Steve were unconscious or dead.

The ground bus took them over the majestic arch of the bridge, rapidly through the sleepy Enclave—Alan saw nobody he recognized in the streets—and through the restricted area that led to the spacefield.

The spaceport was a jungle of ships, each standing on its tail waiting to blast off. Most of them were small two-man cargo vessels, used in travel between Earth and the colonies on the Moon, Mars, and Pluto, but here and there a giant starship loomed high above the others. Alan stood on tiptoes to search for the golden hull of the Valhalla, but he was unable to see it. Since the starship would be blasting off at the end of the week, he knew the crew was probably already at work on it, shaping it up for the trip. He belonged on it too.

He saw a dark green starship standing nearby; the Encounter, Kevin Quantrell's ship. Men were moving about busily near the big ship, and Alan remembered that it had become obsolete during its last long voyage, and was being rebuilt.

A robot came sliding up to the three of them as they stood there at the edge of the landing field.

"Can I help you, please?"

"I'm from the starship Valhalla," Alan said. "I'm returning to the ship. Would you take me to the ship, please?"

"Of course."

Alan turned to Hawkes. The moment had come, much too suddenly. Alan felt Rat twitching at his cuff, as if reminding him of something.

Grinning awkwardly, Alan said, "I guess this is the end of the line, Max. You'd better not go out on the spacefield with us. I—I sort of want to thank you for all the help you've given me. I never would have found Steve without you. And about the bet we made— well, it looks like I'm going back on my ship after all, so I've won a thousand credits from you. But I can't ask for it, of course. Not after what you did for Steve."

He extended his hand. Hawkes took it, but he was smiling strangely.

"If I owed you the money, I'd pay it to you," the gambler said. "That's the way I work. The seven thousand I paid for Steve is extra and above everything else. But you haven't won that bet yet. You haven't won it until the Valhalla's in space with you aboard it."

The robot made signs of impatience. Hawkes said, "You'd better convoy your brother across the field and dump him on his ship. Save the goodbyes for later. I'll wait right here for you. Right here."

Alan shook his head. "Sorry, Max, but you're wasting your time by waiting. The Valhalla has to be readied for blastoff, and once I check in aboard ship I can't come back to visit. So this is goodbye, right here."

"We'll see about that," Hawkes said.

"Ten to one odds."

"Ten to one," Alan said. "And you've lost your bet." But his voice did not sound very convincing, and as he started off across the field with Steve dragging along beside him he frowned, and did some very intense thinking indeed in the few minutes' time it took him to arrive at the shining Valhalla. He was beginning to suspect that Hawkes might be going to win the bet after all.

He felt a little emotional pang, something like nostalgia, as the Valhalla came into sight, standing by itself tall and proud at the far end of the field. A cluster of trucks buzzed around it, transferring fuel, bringing cargo. He spotted the wiry figure of Dan Kelleher, the cargo chief, supervising and shouting salty instructions to the perspiring men.

Alan tightened his grip on Steve's arm and moved forward. Kelleher shouted, "You men back there, tighten up on that winch and give 'er a hoist! Tighten up, I say! Put some muscle into——" He broke off. "Alan," he said, in a quiet voice.

"Hello, Dan. Is my father around?"

Kelleher was staring with frank curiosity at the slumped figure of Steve Donnell. "The Captain's off watch now. Art Kandin's in charge."

"Thanks," Alan said. "I'd better go see him."

"Sure. And——"

Alan nodded. "Yes. That's Steve."

He passed between the cargo hoists and clambered onto the escalator rampway that led to the main body of the ship. It rose, conveying him seventy feet upward and through the open passenger hatch to the inner section of the towering starship.

He was weary from having carried Steve so long. He put the sleeping form down against a window-seat facing one of the viewscreens, and said to Rat, "You stay here and keep watch. If anyone wants to know who he is, tell them the truth."

"Right enough."

Alan found Art Kandin where he expected to find him—in the Central Control Room, posting work assignments for the blastoff tomorrow. The lanky, pudgy-faced First Officer hardly noticed as Alan stepped up beside him.

"Art?"

Kandin turned—and went pale. "Oh—Alan. Where in blazes have you been the last two days?"

"Out in the Earther city. Did my father make much of a fuss?"

The First Officer shook his head. "He kept saying you just went out to see the sights, that you hadn't really jumped ship. But he kept saying it over and over again, as if he didn't really believe it, as if he wanted to convince himself you were coming back."

"Where is he now?"

"In his cabin. He's off-watch for the next hour or two. I'll ring him up and have him come down here, I guess."

Alan shook his head. "No—don't do that. Tell him to meet me on B Deck." He gave the location of the picture-viewscreen where he had parked Steve, and Kandin shrugged and agreed.

Alan made his way back to the

viewscreen. Rat looked up at him; he was sitting perched on Steve's shoulder. "Anyone bother you?" Alan asked.

"No one's come by this way since you left," Rat said.

"Alan?" a quiet voice said.

Alan turned. "Hello, Dad."

The Captain's lean, tough face had some new lines on it; his eyes were darkly shadowed, and he looked as if he hadn't slept much the night before. But he took Alan's hand and squeezed it warmly—in a fatherly way, not a Captainly one. Then he glanced at the sleeping form behind Alan.

"I—went into the city, Dad. And found Steve."

Something that looked like pain came into Captain Donnell's eyes, but only for an instant. He smiled. "It's strange, seeing the two of you like this. So you brought back Steve, eh? We'll have to put him back on the roster. Why is he asleep? He looks like he's out cold."

"He is. It's a long story, Dad."

"You'll have to explain it to me later, then—after blastoff."

Alan shook his head. "No, Dad. Steve can explain it when he wakes up, tonight. Steve can tell you lots of things. I'm going back to the city."

"What?"

It was easy to say, now—the decision that had been taking vague form for several hours, and which had crystallized as he trudged across the spacefield toward the Valhalla.

"I brought you back Steve, Dad. You still have one son aboard ship. I want off. I'm resigning. I want to stay behind on Earth. By our charter you can't deny such a request."

Captain Donnell moistened his lips slowly. "Agreed, I can't deny. But why, Alan?"

"I think I can do more good Earthside. I want to look for Cavour's old notebooks; I think he developed the hyperdrive, and if I stay behind on Earth maybe I can find it. Or else I can build my own. So long, Dad. And tell Steve that I wish him luck—and that he'd better do the same for me." He glanced at Rat. "Rat, I'm deeding you to Steve. Maybe if he had had you instead of me, he never would have jumped ship in the first place."

He looked around, at his father, at Steve, at Rat. There was not much else he could say. And he knew that if he prolonged the farewell scene too long, he'd only be burdening his father and himself with the weight of sentimental memory.

"We won't be back from Procyon for almost twenty years, Alan. You'll be thirty-seven before we return to Earth again."

Alan grinned. "I have a hunch I'll be seeing you all before then, Dad. I hope. Give everyone my best. So long, Dad."

"So long, Alan."

He turned away and rapidly descended the ramp. Avoiding Kelleher and the cargo crew, for goodbyes would take too long, he trotted smoothly over the spacefield, feeling curiously lighthearted now. Part of the quest was over;

Steve was back on board the Valhalla. But Alan knew the real work was just beginning. He would search for the hyperdrive; perhaps Hawkes would help him. Maybe he would succeed in his quest this time, too. He had some further plans, in that event, but it was not time to think of them now.

Hawkes was still standing at the edge of the field, and there was a thoughtful smile on his face as Alan came running up to him. "I guess you won your bet," Alan said, when he had his breath back.

"I almost always do. You owe me a hundred credits—but I'll defer collection."

They made the trip back to York City in virtual silence. Either Hawkes was being too tactful to ask the reasons for Alan's decision or else—this seemed more likely, Alan decided—the gambler had already made some shrewd surmises, and was waiting for time to bear him out. Hawkes had known long before Alan himself realized it that he would not leave with the Valhalla.

The Cavour Hyperdrive, that was the rainbow's end Alan would chase now. He would accept Hawkes' offer, become the gambler's protege, learn a few thing about life. The experience would not hurt him. And always in the front of his mind he would keep the ultimate goal, of finding a spacedrive that would propel a ship faster than the speed of light.

At the apartment in Hasbrouck, Hawkes offered him a drink. "To celebrate our partnership," he explained.

Alan accepted the drink and tossed it down. It stung, momentarily; he saw sadly he was never going to make much of a drinking man. He drew something from his pocket, and Hawkes frowned.

"What's that?"

"My Tally. Every spaceman has one. It's the only way we can keep track of our chronological ages when we're on board ship." He showed it to Hawkes; it read Year 17 Day 3. "Every twenty-four hours of subjective time that goes by, we click off another day. Every three hundred sixty-five days another year is ticked off. But I guess I won't be needing this any more." He tossed it in the disposal unit. "I'm an Earther now. Every day that goes by is just one day; objective time and subjective time are equal."

Hawkes grinned cheerfully. "A little plastic doodad to tell you how old you are, eh? Well, that's all behind you now." He pointed to a button in the wall. "There's the operating control for your bed; I'll sleep in back, where I did last night. First thing tomorrow we'll get you a decent set of clothes, so you can walk down the street without having people yell 'Spacer!' at you. Then I want you to meet a few people—friends of mine. And then we start breaking you in at the Class C tables." * * * * * The first few days of life with Hawkes were exciting ones. The gambler bought Alan new clothing, modern stuff with self-sealing zippers and pressure buttons, made of filmy clinging materials that were incredibly more comfortable than the rough cloth of his Valhalla uniform. York City seemed less strange to him with

each passing hour; he studied Undertube routes and Overshoot maps until he knew his way around the city fairly well.

Each night about 1800 they would eat, and then it was time to go to work. Hawkes' routine brought him to three different Class A gambling parlors, twice each week; on the seventh day he always rested. For the first week Alan followed Hawkes around, standing behind him and observing his technique. When the second week began, Alan was on his own, and he began to frequent Class C places near the A parlors Hawkes used.

But when he asked Hawkes whether he should take out a Free Status registration, the gambler replied with a quick, snappish, "Not yet." "But why? I'm a professional gambler, since last week. Why shouldn't I register?"

"Because you don't need to. It's not required."

"But I want to. Gosh, Max, I—well, I sort of want to put my name down on something. Just to show I belong here on Earth. I want to register."

Hawkes looked at him strangely, and it seemed to Alan there was menace in the calm blue eyes. In suddenly ominous tones he said, "I don't want you signing your name to anything, Alan. Or registering for Free Status. Got that?"

"Yes, but——"

"No buts! Got it?"

Repressing his anger, Alan nodded. He was used to taking orders from his shipboard superiors and obeying them. Hawkes probably knew best. In any case, he was dependent on the older man right now, and did not want to anger him unnecessarily. Hawkes was wealthy; it might take money to build a hyperdrive ship, when the time came. Alan was flatly cold-blooded about it, and the concept surprised and amused him when he realized just how single-minded he had become since resigning from the Valhalla.

He turned the single-mindedness to good use at the gaming tables first. During his initial ten days as a professional, he succeeded in losing seven hundred credits of Hawkes' money, even though he did manage to win a three-hundred-credit stake one evening.

But Hawkes was not worried. "You'll make the grade, Alan. A few more weeks, days maybe, while you learn the combinations, limber up your fingers, pick up the knack of thinking fast—you'll get there."

"I'm glad you're so optimistic." Alan felt downcast. He had dropped three hundred credits that evening, and it seemed to him that his fumbling fingers would never learn to set up the combinations fast enough. He was just like Steve, a born loser, without the knack the game required. "Oh, well, it's your money."

"And I expect you to double it for me some day. I've got a five-to-one bet out now that you'll make Class B before fall."

Alan snorted doubtfully. In order to make Class B, he would have to make average winnings of two hundred credits a night for ten days running, or else

win three thousand credits within a month. It seemed a hopeless task.

But, as usual, Hawkes won the bet. Alan's luck improved as May passed and June dwindled; at the beginning of July he hit a hot streak when he seemed to be marching up to the winner's rostrum every other round, and the other Class C patrons began to grumble. The night he came home with six hundred newly-won credits, Hawkes opened a drawer and took out a slim, sleek neutrino gun.

"You'd better carry this with you from now on," the gambler said.

"What for?"

"They're starting to notice you now. I hear people talking. They know you're carrying cash out of the game parlors every night."

Alan held the cool gray weapon, whose muzzle could spit a deadly stream of energized neutrinos, undetectable, massless, and fatal. "If I'm held up I'm supposed to use this?"

"Just the first time," Hawkes said. "If you do the job right, you won't need to use it any more. There won't be any second time."

As it turned out, Alan had no need for the gun, but he carried it within easy reach whenever he left the apartment. His skill at the game continued to increase; it was, he saw, just like astrogation, and with growing confidence he learned to project his moves three and sometimes four numbers ahead.

On a warm night in mid-July the proprietor of the games hall Alan frequented most regularly stopped him as he entered.

"You're Donnell, aren't you?"

"That's right. Anything wrong?"

"Nothing much, except that I've been tallying up your take the past two weeks. Comes to close to three thousand credits, altogether. Which means you're not welcome around this parlor any more. Nothing personal, son. You'd better carry this with you next time out."

Alan took the little card the proprietor offered him. It was made of gray plastic, and imprinted on it in yellow were the letters, CLASS B. He had been promoted.

Things were not quite so easy in the Class B games parlors. Competition was rough. Some of the players were, like Alan, sharp newcomers just up from the bottom of the heap; others were former Class A men who were sliding down again, but still did well enough to hang on in Class B. Every day, some of the familiar faces were gone, as one man after another failed to meet the continuing qualifications for the intermediary class.

Alan won fairly steadily—and Hawkes, of course, was a consistent winner on the Class A level. Alan turned his winnings over to the older man, who then allowed him to draw any cash he might need without question.

The summer rolled on through August—hot and sticky, despite the best efforts of the local weather-adjustment bureau. The cloud-seeders provided a cooling rain-shower at about 0100 every night to wash away the day's grime.

Alan was usually coming home at that time, and he would stand in the empty streets letting the rain pelt down on him, and enjoying it. Rain was a novelty for him; he had spent so much of his life aboard the starship that he had had little experience with it. He was looking forward to the coming of winter, and with it snow.

He hardly ever thought of the Valhalla. He disciplined himself to keep thoughts of the starship out of his mind, for he knew that once he began regretting his decision there would be no stopping. Life on Earth was endlessly fascinating; and he was confident that someday soon he would get a chance to begin tracking down the Cavour hyperdrive.

Hawkes taught him many things—how to wrestle, how to cheat at cards, how to throw knives. None of the things Alan learned from Hawkes were proper parts of the education of a virtuous young man—but on Earth, virtue was a negative accomplishment. You were either quick or dead. And until he had an opportunity to start work on the hyperdrive, Alan knew he had better learn how to survive on Earth. Hawkes was a master of survival techniques; Alan was a good student.

He had his first test on a muggy night early in September. He had spent his evening at the Lido, a flossy games parlor in the suburb of Ridgewood, and had come away with better than seven hundred credits—the second best single night he had ever had. He felt good about things. Hawkes was working at a parlor far across the city, and so they did not arrange to meet when the evening was over; instead, they planned to come home separately. Usually they talked for an hour or two each night before turning in, Alan reviewing his evening's work and having Hawkes pick out the weak points in his technique and show him the mistakes he had made.

Alan reached Hasbrouck about 0030 that evening. There was no moon; and in Hasbrouck the street-lighting was not as efficient as it was in more respectable areas of York City. The streets were dark. Alan was perspiring heavily from the humidity. But the faint hum of the cloud-seeders' helicopters could be heard; the evening rain was on the way. He decided to wait outside a while.

The first drops splashed down at 0045. Alan grinned gleefully as the cool rain washed away the sweat that clung to him; while pedestrians scurried for cover, he gloried in the downpour.

Darkness lay all around. Alan heard sudden footsteps; a moment later he felt sharp pressure in the small of his back and a hand gripping his shoulder.

A quiet voice said, "Hand over your cash and you won't get hurt."

Alan froze just an instant. Then the months of Hawkes' training came into play. He wiggled his back tentatively to see whether the knife was penetrating his clothing. Good; it wasn't.

In one quick motion he whirled and spun away, dancing off to the left and clubbing down sharply on his opponent's knife-hand. A grunted exclamation of pain rewarded him. He stepped back two steps; as his attacker

advanced, Alan drove a fist into his stomach and leaped lithely away again. This time his hand emerged holding the neutrino gun.

"Stand where you are or I'll burn you," he said quietly. The shadow-shrouded attacker made no move. Cautiously Alan kicked the fallen knife out of his reach without lowering his gun.

"Okay," Alan said. "Come on over here in the light where I can see who you are. I want to remember you."

But to his astonishment he felt strong arms slipping around his and pinioning him; a quick twist and his neutrino gun dropped from his numbed hands. The arms locked behind his back in an unbreakable full nelson.

Alan writhed, but it was no use. The hidden accomplice held him tightly. And now the other man came forward and efficiently went through his pockets. Alan felt more angry than afraid, but he wished Hawkes or someone else would come along before this thing went too far.

Suddenly Alan felt the pressure behind his neck easing up. His captor was releasing him. He poised, debating whether or not to whirl and attack, when a familiar voice said, "Rule Number One: never leave your back unguarded for more than half a second when you're being held up. You see what happens."

Alan was too stunned to reply for several moments. In a whisper he said finally, "Max?"

"Of course. And lucky for you I'm who I am, too. John, step out here in the light where he can see you. Alan, meet John Byng. Free Status, Class B."

The man who had originally attacked him came forward now, into the light of the street-glow. He was shorter than Alan, with a lean, almost fleshless face and a scraggly reddish-brown beard. He looked cadaverous. His eyeballs were stained a peculiar yellowish tinge. Alan recognized him—a Class B man he had seen several times at various parlors. It was not a face one forgot easily.

Byng handed over the thick stack of bills he had taken from Alan. As he pocketed them, Alan said in some annoyance, "A very funny prank, Max. But suppose I had burned your friend's belly, or he had stabbed me?"

Hawkes chuckled. "One of the risks of the game, I guess. But I know you too well to think that you'd burn down an unarmed man, and John didn't intend to stab you. Besides, I was right here."

"And what was the point of this little demonstration?"

"Part of your education, m'boy. I was hoping you'd be held up by one of the local gangs, but they didn't oblige, so I had to do it myself. With John's help, of course. Next time remember that there may be an accomplice hiding in the shadows, and that you're not safe just because you've caught one man."

Alan grinned. "Good point. And I guess this is the best way to learn it."

The three of them went upstairs. Byng excused himself and vanished into the extra room almost immediately; Hawkes whispered to Alan, "Johnny's a dreamduster—a narcosephrine addict.

In the early stages; you can spot it by the yellowing of the eyeballs. Later on it'll cripple him, but he doesn't worry about later on."

Alan studied the small, lean man when he returned. Byng was smiling—a strange unworldly smile. He held a small plastic capsule in his right hand.

"Here's another facet of your education," he said. He looked at Hawkes. "Is it okay?"

Hawkes nodded.

Byng said, "Take a squint at this capsule, boy. It's dreamdust—narcosephrine. That's my kick."

He tossed the capsule nonchalantly to Alan, who caught it and held it at arm's distance as if it were a live viper. It contained a yellow powder.

"You twist the cap and sniff a little," Hawkes said. "But don't try it unless you hate yourself real bad. Johnny can testify to that."

Alan frowned. "What does the stuff do?"

"It's a stimulant—a nerve-stimulant. Enhances perception. It's made from a weed that grows only in dry, arid places—comes from Epsilon Eridani IV originally, but the galaxy's biggest plantation is in the Sahara. It's habit-forming—and expensive."

"How much of it do you have to take to—to get the habit?"

Byng's thin lips curled in a cynical scowl. "One sniff. And the drug takes all your worries away. You're nine feet tall and the world's your plaything, when you're up on dream dust. Everything you look at has six different colors." Bitterly Byng said, "Just one catch— after about a year you stop feeling the effect. But not the craving. That stays with you forever. Every night, one good sniff—at a hundred credits a sniff. And there's no cure."

Alan shuddered. He had seen dreamdust addicts in the advanced state—withered palsied old men of forty, unable to eat, crippled, drying up and nearing death. All that for a year's pleasure!

"Johnny used to be a starman," Hawkes said suddenly. "That's why I picked him for our little stunt tonight. I thought it was about time I introduced you two."

Alan's eyes widened. "What ship?"

"Galactic Queen. A dreamdust peddler came wandering through the Enclave one night and let me have a free sniff. Generous of him."

"And you—became an addict?"

"Five minutes later. So my ship left without me. That was eleven years ago, Earthtime. Figure it out—a hundred credits a night for eleven years."

Alan felt cold inside. It could have happened to him, he thought—that free sniff. Byng's thin shoulders were quivering. The advanced stage of addiction was starting to set in.

Byng was only the first of Hawkes' many friends that Alan met in the next two weeks. Hawkes was the center of a large group of men in Free Status, not all of whom knew each other but who all knew Hawkes. Alan felt a sort of pride in being the protege of such an important and widely-known man as Max

Hawkes, until he started discovering what sort of people Hawkes' friends were.

There was Lorne Hollis, the loansman—one of the men Steve had borrowed from. Hollis was a chubby, almost greasy individual with flat milky gray eyes and a cold, chilling smile. Alan shook hands with him, and then felt like wiping off his hand. Hollis came to see them often.

Another frequent visitor was Mike Kovak of the Bryson Syndicate—a sharp-looking businessman type in ultramodern suits, who spoke clearly and well and whose specialty was forgery. There was Al Webber, an amiable, soft-spoken little man who owned a fleet of small ion-drive cargo ships that plied the spacelines between Earth and Mars, and who also exported dreamdust to the colony on Pluto, where the weed could not be grown.

Seven or eight others showed up occasionally at Hawkes' apartment. Alan was introduced to them all, and then generally dropped out of the conversation, which usually consisted of reminiscences and gossip about people he did not know.

But as the days passed, one thing became evident: Hawkes might not be a criminal himself, but certainly most of his friends operated on the far side of the law. Hawkes had seen to it that they stayed away from the apartment during the first few months of Alan's Earther education; but now that the ex-starman was an accomplished gambler and fairly well skilled in self-defense, all of Hawkes' old friends were returning once again.

Day by day Alan increasingly realized how innocent and childlike a starman's life was. The Valhalla was a placid little world of 176 people, bound together by so many ties that there was rarely any conflict. Here on Earth, though, life was tough and hard.

He was lucky. He had stumbled into Hawkes early in his wanderings. With a little less luck he might have had the same sort of life Steve had had ... or John Byng. It was not fun to think about that.

Usually when Hawkes had friends visiting him late at night, Alan would sit up for a while listening, and then excuse himself and get some sleep. As he lay in bed he could hear low whispering, and once he woke toward morning and heard the conversation still going on. He strained his ears, but did not pick up anything.

One night early in October he had come home from the games parlor and, finding nobody home, had gone immediately to sleep. Some time later he heard Hawkes and his friends come in, but he was too tired to get out of bed and greet them. He rolled over and went back to sleep.

But later that night he felt hands touching him, and he opened an eye to see Hawkes bending over him. "It's me—Max. Are you awake?"

"No," Alan muttered indistinctly.

Hawkes shook him several times. "Come on—get up and put some clothes on. Some people here who want to talk to you."

Only half comprehending, Alan clambered unwillingly from bed, dressed, and splashed cold water in his face. He followed Hawkes back inside.

The living room was crowded. Seven or eight men were there—the ones Alan thought of as the inner circle of Hawkes' cronies. Johnny Byng, Mike Kovak, Al Webber, Lorne Hollis, and some others. Sleepily Alan nodded at them and took a seat, wondering why Hawkes had dragged him out of bed for this.

Hawkes looked at him sharply. "Alan, you know all these people, don't you?"

Alan nodded. He was still irritated at Hawkes; he had been sound asleep.

"You're now facing ninety per cent of what we've come to call the Hawkes Syndicate," Hawkes went on. "These eight gentlemen and myself have formed the organization recently for a certain specific purpose. More of that in a few minutes. What I got you out here to tell you was that there's room in our organization for one more man, and that you fit the necessary qualifications."

"Me?"

Hawkes smiled. "You. We've all been watching you since you came to live with me, testing you, studying you. You're adaptable, strong, intelligent. You learn fast. We had a little vote tonight, and decided to invite you in."

Alan wondered if he were still asleep or not. What was all this talk of syndicates? He looked round the circle, and realized that this bunch could be up to no good.

Hawkes said, "Tell him about it, Johnny."

Byng leaned forward and blinked his drug-stained eyes. In a quiet voice, almost a purr, he said, "It's really very simple. We're going to stage a good old-fashioned holdup. It's a proposition that'll net us each about a million credits, even with the ten-way split. It ought to go off pretty easy but we need you in on it. As a matter of fact, I'd say you were indispensable to the project, Alan."

Hawkes took over, explaining the proposition to a now very much awake Alan.

"There's going to be a currency transfer at the World Reserve Bank downtown next Friday. At least ten million credits are going to be picked up by an armored truck and taken to branch banks for distribution.

"Hollis, here, happens to have found out the wave-patterns of the roboguards who'll be protecting the currency shipment. And Al Webber has some equipment that can paralyze roboguards if we know their operational wavelength. So it's a simple matter to leave the car unprotected; we wait till it's loaded, then blank out the robots, seize the human guards, and drive away with the truck."

Alan frowned thoughtfully. "Why am I so indispensable to this business?" He had no desire to rob banks or anything else.

"Because you're the only one of us who isn't registered on the central directory. You don't have any televector number. You can't be traced."

Suddenly Alan understood. "So

that's why you didn't let me register! You've been grooming me for this all along!"

Hawkes nodded. "As far as Earth is concerned, you don't exist. If any of us drove off with that truck, all they need to do is plot the truck's coordinates and follow the televector patterns of the man who's driving it. Capture is inevitable that way. But if you're aboard the truck, there's no possible way of tracing your route. Get it?"

"I get it," Alan said slowly. But I don't like it, he added silently. "I want to think about the deal a little longer, though. Let me sleep on it. I'll tell you tomorrow whether I'll go through with it."

Puzzled expressions appeared on the faces of Hawkes' eight guests, and Webber started to say something, but Hawkes hastily cut him off. "The boy's a little sleepy, that's all. He needs time to get used to the idea of being a millionaire. I'll call each of you in the morning, okay?"

The eight were shepherded out of the apartment rapidly, and when they were gone Hawkes turned to face Alan. Gone now was the bland friendliness, gone the warmhearted brotherliness of the older man. His lean face was cold and businesslike now, and his voice was harsh as he said, "What's this talk of thinking it over? Who said you had any choice about this thing?"

"Don't I have any say in my own life?" Alan asked hotly. "Suppose I don't want to be a bank robber? You didn't tell me——"

"I didn't need to. Listen, boy—I didn't bring you in here for my health. I brought you in because I saw you had the potential for this job. I've coddled you along for more than three months, now. Given you a valuable education in how to get along on this planet. Now I'm asking you to pay me back, a little. Byng told the truth: you're indispensable to this project. Your personal feelings are irrelevant just now."

"Who says?"

"I do."

Alan stared coldly at Hawkes' transformed face. "Max, I didn't bargain for a share in your bank-robbing syndicate. I don't want any part of it. Let's call it quits right now. I've turned over quite a few thousand credits of my winnings to you. Give me five hundred and keep the rest. It's your pay for my room and board and instruction the last three months. You go your way, I'll go mine."

Hawkes laughed sharply. "Just as simple as that? I pocket your winnings and you walk out of here? How dumb do you think I am? You know the names of the syndicate, you know the plans, you know everything. A lot of people would pay big money for an advance tip on this bit." He shook his head. "I'll go my way and you'll go it too, Alan. Or else. You know what that or else means."

Angrily Alan said, "You'd kill me, too, if I backed down now. Friendship doesn't mean a thing to you. 'Help us rob this bank, or else.'"

Hawkes' expression changed again; he smiled warmly, and when he spoke his voice was almost wheedling. "Listen, Alan, we've been planning this thing for

months. I put down seven thousand to clear your brother, just so I'd be sure of getting your cooperation. I tell you there's no danger. I didn't mean to threaten you—but try to see my side of it. You have to help out!"

Alan looked at him curiously. "How come you're so hot to rob the bank, Max? You earn a fortune every night. You don't need a million more credits." "No. I don't. But some of them do. Johnny Byng does; and Kovak, too—he owes Bryson thirty thousand. But I organized the scheme." Hawkes was pleading now. "Alan, I'm bored. Deadly bored. Gambling isn't gambling for me; I'm too good. I never lose except when I want to. So I need to get my kicks someplace else. This is it. But it won't come off without you."

They were silent for a moment. Alan realized that Hawkes and his group were desperate men; they would never let him live if he refused to cooperate. He had no choice at all. It was disillusioning to discover that Hawkes had taken him in mostly because he would be useful in a robbery.

He tried to tell himself that this was a jungle world where morality didn't matter, and that the million credits he'd gain would help finance hyperdrive research. But those were thin arguments that held no conviction. There was no justification for what he was going to do. None whatsoever.

But Hawkes held him in a cleft stick. There was no way out. He had fallen among thieves—and, willy-nilly, he would be forced to become one himself.

"All right," he said bitterly. "I'll drive the getaway truck for you. But after it's over, I'll take my share and get out. I won't want to see you again."

Hawkes seemed to look hurt, but he masked the emotion quickly enough. "That's up to you, Alan. But I'm glad you gave in. It would have been rough on both of us otherwise. Suppose we get some sleep."

Alan slept poorly during what was left of the night. He kept mulling the same thoughts round and round endlessly in his head, until he wished he could unhinge the front of his skull and let the thoughts somehow escape.

It irritated him to know that Hawkes had taken him in primarily because he fit the qualifications for a plan concocted long before, and not for his own sake. All the intensive training the gambler had given him had been directed not merely toward toughening Alan but toward preparing him for the role he would play in the projected robbery.

He felt unhappy about the robbery too. The fact that he was being coerced into taking part made him no less a criminal, and that went against all his long-ingrained codes of ethics. He would be just as guilty as Hawkes or Webber, and there was no way out.

There was no sense brooding over it, he decided finally. When it was all over he would have enough money to begin aiming for his real goal, development of a workable hyperspace drive. He would break completely with Hawkes, move to some other city perhaps. If his quest were successful, it

would in some measure be an atonement for the crime he was going to commit. Only in some measure, though.

The week passed slowly, and Alan did poorly at his nightly work. His mind was anywhere but on the flashing games board, and the permutations and combinations eluded him. He lost, though not heavily.

Each night the ten members of the Syndicate met at Hawkes' apartment and planned each step of the crime in great detail, drilling and re-drilling until it was second nature for each man to recite his particular part in the robbery. Alan's was at once the simplest and most difficult; he would have nothing to do until the others had finished their parts, but then he would have to board the armored car and outrace any pursuers. He was to drive the car far outside city limits, where he would be met and relieved of the cash by Byng and Hollis; then he was to lose the truck somewhere and return to the city by public transit.

The day of the robbery dawned cold and clear; an autumn chill was in the air. Alan felt some anticipatory nervousness, but he was calmer than he expected to be—almost fatalistically calm. By nightfall, he would be a wanted criminal. He wondered whether it would be worth it, even for the million credits. Perhaps it would be best to defy Hawkes and make some sort of escape try.

But Hawkes, as always a shrewd judge of human character, seemed obviously aware that Alan was wavering. He kept a close watch over him, never allowing him to stray. Hawkes was taking no chances. He was compelling Alan to take part in the robbery.

The currency transfer was scheduled to take place at 1240, according to the inside information that Hollis had somehow obtained. Shortly after noon, Hawkes and Alan left the apartment and boarded the Undertube, their destination the downtown section of York City where the World Reserve Bank was located.

They reached the bank about 1230. The armored truck was parked outside, looking sleek and impregnable, and four massive roboguards stood watch, one by each wheel. There were three human policemen too, but they were strictly for effect; in case of any trouble, the roboguards were expected to handle the rough work.

The bank was a mighty edifice indeed—over a hundred stories high, rising in sweeping setbacks to a point where its tapering top was lost in the shimmering noonday sky. It was, Alan knew, the center of global commerce.

Armed guards were bringing packages of currency from within the bank and were placing them on the truck. Alan's heart raced. The streets were crowded with office workers out for lunch; could he get away with it?

It was all precisely synchronized. As Hawkes and Alan strolled toward the bank, Alan caught sight of Kovak lounging across the street, reading a telefax sheet. None of the others were visible.

Webber, Alan knew, was at this moment sitting in an office overlooking the bank entrance, staring out the window

at the scene below. At precisely 1240, Webber was to throw the switch on the wave-damper that would paralyze the four roboguards.

The instant the roboguards froze, the other conspirators would go into action. Jensen, McGuire, Freeman, and Smith, donning masks, would leap for the three human guards of the truck and pin them to the ground. Byng and Hawkes, who would enter the bank a moment before, would stage an impromptu fist-fight with each other just inside the main entrance, thereby creating confusion and making it difficult for reinforcement guards to get past them and into the street.

Just outside the door, Hollis and Kovak would lurk. As the quartet pounced on the truck's guards, they would sprint across and yank the driver out of the cab. Then Alan would enter quickly from the other side and drive off, while the remaining nine would vanish into the crowd in as many different directions as possible. Byng and Hollis, if they got away, would head for the rendezvous to meet Alan and take the cash from him.

If it went off properly the whole thing should take less than fifteen seconds, from the time Webber threw the switch to the time Alan drove away with the truck. If it went off properly.

The seconds crawled by. The time was 1235, now. At 1237 Hawkes and Byng sauntered into the bank from opposite directions. Three minutes to go. Alan's false calm deserted him; he pictured all sorts of possible calamities.

1238. Everyone's watch was synchronized to the second.

1239. 1239:30.

Thirty seconds to go. Alan took his position in a crowd of bystanders, as prearranged. Fifteen seconds to go. Ten. Five.

1240. The roboguards were in the act of directing the locking of the truck; the loading had been carried out precisely on schedule. The truck was shut and sealed.

The roboguards froze.

Webber had been right on time. Alan tensed, caught up in the excitement of the moment and thinking now only of the part he was to play.

The three policemen glanced at each other in some confusion. Jensen and McGuire came leaping out at them——

And the roboguards returned to life.

The sound of blaster shots was heard within the bank; Alan whirled, startled. Four guards came racing out of the building, blasters drawn. What had happened to Hawkes and Byng—why weren't they obstructing the entrance, as it had been arranged?

The street was a scene of wild confusion now; people milled everywhere. Alan saw Jensen writhing in the steel grip of a roboguard. Had Webber's device failed? Evidently so.

Alan was unable to move. He saw Freeman and McGuire streaking wildly down the street with police in keen pursuit. Hollis stood staring dumbly inside the bank door. Alan saw Kovak come running toward him.

"Everything's gone wrong!" Kovak whispered harshly. "The cops were waiting for us! Byng and Hawkes are dead. Come on—run, if you want to save yourself!"

Alan sat very quietly in the empty apartment that had once belonged to Max Hawkes, and stared at nothing in particular. It was five hours since the abortive robbery. He was alone.

The news had been blared out over every form of communication there was; he knew the story by heart. A daring robbery had been attempted, but police detection methods had yielded advance warning, and the robbers had been frustrated. The roboguards had been specially equipped ones which could shift to an alternate wavelength in case of emergency; they had blanked out only momentarily. And special guards had been posted within the bank, ready to charge out. Byng and Hawkes had tried to block the doorway and they had been shot down. Hawkes was killed instantly; Byng died an hour later in the hospital.

At least two other members of the gang had been apprehended—Jensen and Smith, both trapped by the roboguards. It was known that at least two other men and possibly more had participated in the attempt, and these were being traced now.

Alan was not worried. He had not been within a hundred feet of the crime, and it had been easy for him to slip away unnoticed. The others had had little difficulty either— Webber, Hollis, Kovak, McGuire, and Freeman. There was a chance that Hollis or Kovak had been recognized; in that case, they could be tracked down by televector. But Alan was not registered on the televector screens—and there was no other way of linking him with the crime.

He glanced around the apartment at Hawkes' bar and his audio system and all the dead man's other things. Yesterday, Alan thought, Hawkes had been here, alive, eyes sparkling as he outlined the plans for the robbery a final time. Now he was dead. It was hard to believe that such a many-sided person could have been snuffed out so soon, so quickly.

A thought occurred. The police would be investigating the disposition of Hawkes' property; they would want to know the relationship between Hawkes and Alan, and perhaps there would be questions asked about the robbery. Alan decided to forestall that.

He reached for the phone. He would call Security, tell them he had been living with Hawkes and had heard of the gambler's sudden violent death, and in all innocence ask for details. He would——

The door-announcer chimed.

Alan whirled and put down the receiver. Reaching out, he flicked on the door screen and was shown a view of a distinguished-looking middle-aged man in the silver-gray uniform of the police. So soon? Alan thought. I didn't even get a chance to call——

"Who is it?" he asked, in a surprisingly even voice.

"Inspector Gainer of Global Secu-

rity."

Alan opened the door. Inspector Gainer smiled warmly, walked in, took the seat Alan offered him. Alan felt tense and jumpy, and hoped not too much of it showed.

The Security man said, "Your name is Alan Donnell, isn't it? And you're a Free Status man, unregistered, employed as a professional gamesman Class B?"

Alan nodded. "That's right, sir."

Gainer checked a notation on a pad he carried. "I suppose you've heard that the man who lived here—Max Hawkes—was killed in an attempted robbery this morning."

"Y-yes, sir. I heard it a little while ago, on the newscasts. I'm still a little shaken up. W-would you care for a drink, Inspector?"

"Not on duty, thanks," Gainer said cheerfully. "Tell me, Alan—how long did you know Max Hawkes?"

"Since last May. I'm an ex-starman. I—jumped ship. Max found me wandering around the city and took me in. But I never knew anything about any robberies, Inspector. Max kept his mouth pretty well sealed most of the time. When he left here this morning, he said he was going to the bank to make a deposit. I never thought——"

He stopped, wondering whether he sounded convincing. At that moment a long jail sentence or worse seemed inevitable. And the worst part of it was that he had not wanted to take part in the robbery, indeed had not taken part—but in the eyes of the law he was undoubtedly as guilty as any of the others.

Gainer raised one hand. "Don't misunderstand, son. I'm not here as a criminal investigator. We don't suspect you had any part in the attempt."

"Then why——"

He drew an envelope from his breast pocket and unfolded the papers it contained. "I knew Max pretty well," he said. "About a week ago he came to see me and gave me a sealed envelope which was to be opened only in the event of his death on this particular day, and to be destroyed unopened otherwise. I opened it a few hours ago. I think you ought to read it."

With trembling fingers Alan took the sheaf of papers and scanned them. They were neatly typed; Alan recognized the blocky purple characters of the voicewrite Hawkes kept in his room.

He started to read.

The document explained that Hawkes was planning a bank robbery to take place on Friday, October 3, 3876. He named none of his accomplices. He went on to state that one Alan Donnell, an unregistered ex-starman, was living with him, and that this Alan Donnell had no knowledge whatsoever of the intended bank robbery.

Furthermore, Hawkes added, in the event of my death in the intended robbery, Alan Donnell is to be sole heir and assign of my worldly goods. This supersedes and replaces any and all wills and testaments I may have made at any past time.

Appended was a schedule of the properties Hawkes was leaving behind.

Accounts in various savings banks totalled some three quarters of a million credits; besides that, there were scattered investments, real estate holdings, bonds. The total estate, Hawkes estimated, was worth slightly over one million credits.

When Alan finished, he looked up startled and white-faced at the older man. "All of this is mine?"

"You're a pretty rich young man," Gainer agreed. "Of course, there are formalities— the will has to be probated and contested, and you can expect it to be contested by somebody. If you still have the full estate when the courts get through with you, you'll be all right."

Alan shook his head uncomprehendingly. "The way he wrote this—it's as if he knew."

"Max Hawkes always knew," Gainer said gently. "He was the best hunchman I've ever seen. It was almost as if he could look a couple of days into the future all the time. Sure, he knew. And he also knew it was safe to leave this document with me—that he could trust me not to open it. Imagine, announcing a week ahead of time that you're going to rob a bank and then turning the announcement over sealed to a police officer!"

Alan started. The police had known about the robbery in advance—that was how Max and the dreamduster Byng had been killed. Had Gainer been the one who had betrayed them? Had he opened the sealed envelope ahead of time, and sent Max to his death?

No. It was inconceivable that this soft-spoken man would have done such a thing. Alan banished the thought.

"Max knew he was going to be killed," he said. "And yet he went ahead with it. Why?"

"Maybe he wanted to die," Gainer suggested. "Maybe he was bored with life, bored with always winning, bored with things as they were. The man was never born who could figure out Max Hawkes, anyway. You must have found that out yourself."

Gainer rose. "I'll have to be moving along, now. But let me give you some suggestions, first."

"Sir?"

"Go downtown and get yourself registered in Free Status. Have them give you a televector number. You're going to be an important person when you get all that money. And be very careful about who your friends are. Max could take care of himself; you may not be so lucky, son."

"Is there going to be an investigation of the robbery?" Alan asked.

"It's under way already. You may be called down for questioning, but don't let it worry you. I turned a copy of Max's will over to them today, and that exonerates you completely."

It was strangely empty in the apartment that night; Alan wished Gainer had stayed longer. He walked through the dark rooms, half expecting Max to come home. But Max wasn't coming home.

Alan realized he had been tremendously fond of Hawkes. He had never really shown it; he had never demonstrated much warmth toward the gam-

bler, especially in the final days when they both lived under the pressure of the planned robbery. But Alan knew he owed much to Hawkes, rogue and rascal though he was. Hawkes had been basically a good man, gifted—too gifted, perhaps—whose drives and passions led him beyond the bounds of society. And at thirty-five he was dead, having known in advance that his last day was at hand.

The next few days were busy ones. Alan was called to Security headquarters for questioning, but he insisted he knew nothing about the robbery or Hawkes' friends, and the document Hawkes had left seemed to bear him out. He was cleared of all complicity in the robbery.

He next went to the Central Directory Matrix and registered in Free Status. He was given a televector transmitter—it was surgically embedded in the fleshy part of his thigh— and he accepted a drink from fat old Hines MacIntosh in remembrance of Hawkes.

He spoke briefly with MacIntosh about the process of collecting on Hawkes' estate, and learned it was a complex process, but nothing to be frightened of. The will was being sent through channels now.

He met Hollis in the street several days later. The bloated loansman looked pale and harried; he had lost weight, and his skin hung flabbily over his bones now. Little as Alan liked the loansman, he insisted on taking him to a local restaurant for lunch.

"How come you're still hanging around York City?" Alan asked. "I thought the heat was on for any of Max's old buddies."

"It is," Hollis said, wiping sweat from his white shiny forehead. "But so far I'm in the clear. There won't be much of an investigation; they killed two and caught two, and that'll keep them happy. After all, the robbery was a failure."

"Any notion why it failed?"

Hollis nodded. "Sure I have a notion! It was Kovak who tipped them off."

"Mike?—but he looked okay to me."

"And to everybody. But he owed Bryson a lot, and Bryson was anxious to dispose of Max. So Kovak turned the plans of the robbery over to Bryson's boys in exchange for a quitclaim on the money he owed, and Bryson just forwarded it all on to the police. They were waiting for us when we showed up."

That cleared Gainer, Alan thought in some relief. "How did you find all this out?"

"Bryson himself told me."

"What!"

"I guess he didn't know exactly who besides Max was in on the deal. Anyway, he certainly didn't know I was part of the group," Hollis said. "Old man Bryson was laying off some bets with me and he let something slip about how he tipped the police to Max. Then he told me the whole thing."

"And Kovak?"

"Dead," Hollis said bluntly. "Bryson must have figured that if he'd sell Max out he'd sell anybody out, so Kovak got taken care of. He was found yesterday. Heart failure, the report said. Bryson has

some good drugs. Say, kid—any word yet on what's going to happen to all Max's dough?"

Alan thought a moment before replying. "I haven't heard a thing. I guess the government inherits it."

"That would be too bad," Hollis said speculatively. "Max was well loaded. I'd like to get my hands into some of that dough myself. So would Bryson and his bunch, I'll bet."

Alan said nothing. When he was through eating, he paid the check and they left, Hollis heading north, Alan south. In three days, Hawkes' will would go through the courts. Alan wondered if Bryson, who seemed to be York City's major criminal syndic man, would try to angle some share of Max's money.

A Bryson man did show up at the hearing—a slick-looking operator named Berwin. His claim was that Hawkes had been affiliated with Bryson a number of years ago, and that Hawkes' money should revert to Bryson by virtue of an obscure law of the last century involving the estates of professional gamblers killed in criminal actions.

The robocomputer who was in charge of the hearing pondered the request a few moments; then relays clicked and the left-hand panel on the computer face lit up with a bright red APPLICATION DENIED signal.

Berwin spoke for three minutes, ending up with a request that the robocomputer disqualify itself from the hearing and allow itself to be replaced by a human judge.

The computer's decision was even quicker this time. APPLICATION DENIED.

Berwin tossed Alan's side of the courtroom a black look and yielded ground. Alan had engaged a lawyer recommended once by Hawkes, a man named Jesperson. Briefly and concisely Jesperson cited Alan's claim to the money, read the terms of the will, and stepped back.

The computer considered Jesperson's plea a few moments, reviewing the brief which the lawyer had taped and fed to the computer earlier. Time passed. Then the green panel lit, and the words, APPLICATION GRANTED.

Alan smiled. Bryson had been defeated; Max's money was his. Money that could be turned toward intensified research on the hyperdrive.

"Well, son?" Jesperson asked. "How does it feel to be a millionaire?"

At the time, he had been much too excited and flustered to answer anything. But, as the next twelve months went by, he learned that being a millionaire was quite pleasant indeed.

There were headaches, of course. There was the initial headache of signing his name several hundred times in the course of the transfer of Hawkes' wealth to him. There were also the frequent visits from the tax-collectors, and the payment to them of a sum that staggered Alan to think about, in the name of Rotation Tax.

But even after taxes, legal fees, and other expenses, Alan found he owned better than nine hundred thousand

credits, and the estate grew by investment every day. The court appointed a legal guardian for him, the lawyer Jesperson, who was to administer Alan's money until Alan reached the biological age of twenty-one. The decision was an involved one, since Alan had undeniably been born three hundred years earlier, in 3576—but the robojudge that presided over that particular hearing cited a precedent seven hundred years old which stated that for legal purposes a starman's biological and not his chronological age was to be accepted.

The guardianship posed no problems for Alan, though. When he met with Jesperson to discuss future plans, the lawyer told him, "You can handle yourself, Alan. I'll give you free rein with the estate—with the proviso that I have veto power over any of your expenditures until your twenty-first birthday."

That sounded fair enough. Alan had reason to trust the lawyer; hadn't Hawkes recommended him? "I'll agree to that," Alan said. "Suppose we start right now. I'd like to take a year and travel around the world. As my legal guardian you'll be stuck with the job of managing my estate and handling investments for me."

Jesperson chuckled. "You'll be twice as wealthy when you get back! Nothing makes money so fast as money."

Alan left the first week in December, having spent three weeks doing virtually nothing but sketching out his itinerary. There were plenty of places he intended to visit.

There was London, where James Hudson Cavour had lived and where his hyperdrive research had been carried out. There was the Lexman Institute of Space Travel in Zurich, where an extensive library of space literature had been accumulated; it was possible that hidden away in their files was some stray notebook of Cavour's, some clue that would give Alan a lead. He wanted to visit the area in Siberia that Cavour had used as his testing-ground, and from which the last bulletin had come from the scientist before his unexplained disappearance.

But it was not only a business trip. Alan had lived nearly half a year in the squalor of Hasbrouck—and because of his Free Status he would never be able to move into a better district, despite his wealth. But he wanted to see the rest of Earth. He wanted to travel just for the sake of travel.

Before he left, he visited a rare book dealer in York City, and for an exorbitant fifty credits purchased a fifth-edition copy of An Investigation into the Possibility of Faster-than-Light Space Travel, by James H. Cavour. He had left his copy of the work aboard the Valhalla, along with the few personal possessions he had managed to accumulate during his life as a starman.

The book dealer had frowned when Alan asked for the volume under the title he knew. "The Cavour Theory? I don't think—ah, wait." He vanished for perhaps five minutes and returned with an old, fragile, almost impossibly delicate-looking book. Alan took it and scanned the opening page. There were the

words he had read so many times: "The present system of interstellar travel is so grossly inefficient as to be virtually inoperable on an absolute level."

"Yes, that's the book. I'll take it."

His first stop on his round-the-globe jaunt was London, where Cavour had been born and educated more than thirteen centuries before. The stratoliner made the trip across the Atlantic in a little less than three hours; it took half an hour more by Overshoot from the airport to the heart of London.

Somehow, from Cavour's few autobiographical notes, Alan had pictured London as a musty old town, picturesque, reeking of medieval history. He couldn't have been more wrong. Sleek towers of plastic and concrete greeted him. Overshoots roared by the tops of the buildings. A busy network of bridges connected them.

He went in search of Cavour's old home in Bayswater, with the nebulous idea of finding some important document wedged in the woodwork. But a local security officer shook his head as Alan asked for directions.

"Sorry, lad. I've never heard of that street. Why don't you try the information robot up there?"

The information robot was a blocky green-skinned synthetic planted in a kiosk in the middle of a broad well-paved street. Alan approached and gave the robot Cavour's thirteen-century-old address.

"There is no record of any such address in the current files," the steely voice informed him.

"No. It's an old address. It dates back to at least 2570. A man named Cavour lived there."

The robot digested the new data; relays hummed softly within it as it scanned its memory banks. Finally it grunted, "Data on the address you seek has been reached."

"Fine! Where's the house?"

"The entire district was demolished during the general rebuilding of London in 29822997. Nothing remains."

"Oh," Alan said.

The London trail trickled out right then and there. He pursued it a little further, managed to find Cavour's name inscribed on the honor role of the impressive London Technological Institute for the year 2529, and discovered a copy of Cavour's book in the Institute Library. There was nothing else to be found. After a month in London, Alan moved on eastward across Europe.

Most of it was little like the descriptions he had read in the Valhalla's library. The trouble was that the starship's visits to Earth were always at least a decade behind, usually more. Most of the library books had come aboard when the ship had first been commissioned, far back in the year 2731. The face of Europe had almost totally altered since then.

Now, shiny new buildings replaced the ancient houses which had endured for as much as a thousand years. A gleaming bridge linked Dover and Calais; elsewhere, the rivers of Europe were bridged frequently, providing easy access between the many states of

the Federation of Europe. Here, there, monuments of the past remained—the Eiffel Tower, absurdly dwarfed by the vast buildings around it, still reared its spidery self in Paris, and Notre Dame still remained as well. But the rest of Paris, the ancient city Alan had read so much of—that had long since been swept under by the advancing centuries. Buildings did not endure forever.

In Zurich he visited the Lexman Institute for Space Travel, a magnificent group of buildings erected on the royalties from the Lexman Spacedrive. A radiant statue sixty feet high was the monument to Alexander Lexman, who in 2337 had first put the stars within the reach of man.

Alan succeeded in getting an interview with the current head of the Institute, but it was anything but a satisfactory meeting. It was held in an office ringed with mementoes of the epoch-making test flight of 2338.

"I'm interested in the work of James H. Cavour," Alan said almost immediately—and from the bleak expression that appeared on the scientist's face, he knew he had made a grave mistake.

"Cavour is as far from Lexman as possible, my friend. Cavour was a dreamer; Lexman, a doer."

"Lexman succeeded—but how do you know Cavour didn't succeed as well?"

"Because, my young friend, faster-than-light travel is flatly impossible. A dream. A delusion."

"You mean that there's no faster-than-light research being carried on here?"

"The terms of our charter, set down by Alexander Lexman himself, specify that we are to work toward improvements in the technique of space travel. It said nothing about fantasies and daydreams. No—ah—hyperdrive research is taking place at this institute, and none will take place so long as we remain true to the spirit of Alexander Lexman."

Alan felt like crying out that Lexman was a bold and daring pioneer, never afraid to take a chance, never worried about expense or public reaction. It was obvious, though, that the people of the Institute had long since fossilized in their patterns. It was a waste of breath to argue with them.

Discouraged, he moved on, pausing in Vienna to hear the opera—Max had always intended to spend a vacation with him in Vienna, listening to Mozart, and Alan felt he owed it to Hawkes to pay his respects. The operas he saw were ancient, medieval in fact, better than two thousand years old; he enjoyed the tinkly melodies but found some of the plots hard to understand.

He saw a circus in Ankara, a football game in Budapest, a nullgrav wrestling match in Moscow. He journeyed to the far reaches of Siberia, where Cavour had spent his final years, and found that what had been a bleak wasteland suitable for spaceship experiments in 2570 was now a thriving modern city of five million people. The site of Cavour's camp had long since been swallowed up.

Alan's faith in the enduring nature

of human endeavor was restored somewhat by his visit to Egypt—for there he saw the pyramids, nearly seven thousand years old; they looked as permanent as the stars.

The first anniversary of his leaving the Valhalla found him in South Africa; from there he travelled eastward through China and Japan, across the highly industrialized islands of the Far Pacific, and from the Philippines he returned to the American mainland by jet express.

He spent the next four months traveling widely through the United States, gaping at the Grand Canyon and the other scenic preserves of the west. East of the Mississippi, life was different; there was barely a stretch of open territory between York City and Chicago.

It was late in November when he returned to York City. Jesperson greeted him at the airfield, and they rode home together. Alan had been gone a year; he was past eighteen, now, a little heavier, a little stronger. Very little of the wide-eyed boy who had stepped off the Valhalla the year before remained intact. He had changed inwardly.

But one part of him had not changed, except in the direction of greater determination. That was the part that hoped to unlock the secret of faster-than-light travel.

He was discouraged. His journey had revealed the harsh fact that nowhere on Earth was research into hyperdrive travel being carried on; either they had tried and abandoned it as hopeless, or, like the Zurich people, they had condemned the concept from the start.

"Did you find what you were looking for?" Jesperson asked.

Alan slowly shook his head. "Not a hint. And I really covered ground." He stared at the lawyer a moment. "How much am I worth, now?"

"Well, offhand—" Jesperson thought for a moment. "Say, a million three hundred. I've made some good investments this past year."

Alan nodded. "Good. Keep the money piling up. I may decide to open a research lab of my own, and we'll need every credit we've got."

But the next day an item arrived in the morning mail which very much altered the character of Alan's plans for the future. It was a small but thick package, neatly wrapped, which bore as return address the name Dwight Bentley, with a London number.

Alan frowned for a moment, trying to place the name. Then it came back to him— Bentley was the vice-provost of the London Institute of Technology, Cavour's old school. Alan had had a long talk with Bentley one afternoon in January, about Cavour, about space travel, and about Alan's hopes for developing a hyperspace drive.

The parcel was the right size and thickness to contain a book. Alan slit the fastenings, and folded back the outer wrapper. A note from Bentley lay on top.

London

3rd November 3877

My dear Mr. Donnell:

Perhaps you may remember the

very enjoyable chat you and I had one day at this Institute last winter, on the occasion of your visit to London. You were, I recall, deeply interested in the life and work of James H. Cavour, and anxious to carry on the developments he had achieved in the field of space travel.

Several days ago, in the course of an extensive resurveying of the Institute's archives, the enclosed volume was discovered very thoroughly hidden in the dusty recesses of our library. Evidently Mr. Cavour had forwarded the book to us from his laboratory in Asia, and it had somehow become misfiled.

I am taking the liberty of forwarding the book on to you, in the hopes that it will aid you in your work and perhaps ultimately bring you success. Would you be kind enough to return the book to me c/o this Institute when you are finished with it?

Cordially,

Dwight Bentley

Alan let the note slip to the floor as he reached for the enclosed book. It was leather-bound and even more fragile than the copy of The Cavour Theory he had purchased; it looked ready to crumble at a hostile breath.

With mounting excitement he lifted the ancient cover and turned it over. The first page of the book was blank; so were the second and third. On the fourth page, Alan saw a few lines of writing, in an austere, rigid hand. He peered close, and with awe and astonishment read the words written there:

The Journal of James Hudson Cavour. Volume 16—Jan. 8 to October 11, 2570.

The old man's diary was a curious and fascinating document. Alan never tired of poring over it, trying to conjure up a mental image of the queer, plucky fanatic who had labored so desperately to bring the stars close to Earth.

Like many embittered recluses, Cavour had been an enthusiastic diarist. Everything that took place in his daily life was carefully noted down—his digestion, the weather, any stray thoughts that came to him, tart observations on humanity in general. But Alan was chiefly interested in the notations that dealt with his researches on the problem of a faster-than-the-speed-of-light spacedrive.

Cavour had worked for years in London, harried by reporters and mocked by scientists. But late in 2569 he had sensed he was on the threshold of success. In his diary for January 8, 2570, he wrote:

"The Siberian site is almost perfect. It has cost me nearly what remains of my savings to build it, but out here I will have the solitude I need so much. I estimate six months more will see completion of my pilot model. It is a source of deep bitterness in me that I am forced to work on my ship like a common laborer, when my part should have ceased three years ago with the development of my theory and the designing of my ship. But this is the way the world wants it, and so shall it be."

On May 8 of that year:

"Today there was a visitor—a jour-

nalist, no doubt. I drove him away before he could disturb me, but I fear he and others will be back. Even in the bleak Siberian steppes I shall have no privacy. Work is moving along smoothly, though somewhat behind schedule; I shall be lucky to complete my ship before the end of the year."

On August 17:

"Planes continue to circle my laboratory here. I suspect I am being spied on. The ship is nearing completion. It will be ready for standard Lexman-drive flights any day now, but installation of my spacewarp generator will take several more months."

On September 20:

"Interference has become intolerable. For the fifth day an American journalist has attempted to interview me. My 'secret' Siberian laboratory has apparently become a world tourist attraction. The final circuitry on the spacewarp generator is giving me extreme difficulties; there are so many things to perfect. I cannot work under these circumstances. I have virtually ceased all machine-work this week."

And on October 11, 2570:

"There is only one recourse for me. I will have to leave Earth to complete the installation of my generator. The prying fools and mockers will not leave me alone, and nowhere on Earth can I have the needed solitude. I shall go to Venus—uninhabited, uninhabitable. Perhaps they will leave me alone for the month or two more I need to make my vessel suitable for interstellar drive. Then I can return to Earth, show them what I have done, offer to make a demonstration flight—to Rigel and back in days, perhaps——

"Why is it that Earth so tortures its few of original mind? Why has my life been one unending persecution, ever since I declared there was a way to shortcut through space? There are no answers. The answers lie deep within the dark recesses of the human collective soul, and no man may understand what takes place there. I am content to know that I shall have succeeded despite it all. Some day a future age may remember me, like Copernicus, like Galileo, as one who fought upstream successfully."

The diary ended there. But in the final few pages were computations—a trial orbit to Venus, several columns of blastoff figures, statistics on geographical distribution of the Venusian landmasses.

Cavour had certainly been a peculiar bird, Alan thought. Probably half the "persecutions" he complained of had existed solely inside his own fevered brain. But that hardly mattered. He had gone to Venus; the diary that had found its way back to the London Institute of Technology testified to that. And there was only one logical next step for Alan.

Go to Venus. Follow the orbit Cavour had scribbled at the back of his diary.

Perhaps he might find the Cavour ship itself; perhaps, the site of his laboratory, some notes, anything at all. He could not allow the trail to trickle out here.

He told Jesperson, "I want to buy a small spaceship. I'm going to Venus."

He looked at the lawyer expectantly and got ready to put up a stiff argument when Jesperson started to raise objections. But the big man only smiled.

"Okay," he said. "When are you leaving?"

"You aren't going to complain? The kind of ship I have in mind costs at least two hundred thousand credits."

"I know that. But I've had a look at Cavour's diary, too. It was only a matter of time before you decided to follow the old duck to Venus, and I'm too smart to think that there's any point in putting up a battle. Let me know when you've got your ship picked out and I'll sit down and write the check."

But it was not as simple as all that. Alan shopped for a ship—he wanted a new one, as long as he could afford it—and after several months of comparative shopping and getting advice from spaceport men, he picked the one he wanted. It was a sleek glossy eighty-foot job, a Spacemaster 3878 model, equipped with Lexman converters and conventional ion-jets for atmosphere flying. Smooth, streamlined, it was a lovely sight as it stood at the spacefield in the shadow of the great starships.

Alan looked at it with pride—a slender dark-green needle yearning to pierce the void. He wandered around the spaceport and heard the fuelers and oilers discussing it in reverent tones.

"That's a mighty fine piece of ship, that green one out there. Some lucky fellow's got it."

Alan wanted to go over to them and tell them, "That's my ship. Me. Alan Donnell." But he knew they would only laugh. Tall boys not quite nineteen did not own late-model Spacemasters with price-tags of cr. 225,000.

He itched to get off-planet with it, but there were more delays. He needed a flight ticket, first, and even though he had had the necessary grounding in astrogation technique and space piloting as an automatic part of his education aboard the Valhalla, he was rusty, and needed a refresher course that took six weary months.

After that came the physical exams and the mental checkup and everything else. Alan fumed at the delay, but he knew it was necessary. A spaceship, even a small private one, was a dangerous weapon in unskilled hands. An out-of-control spaceship that came crashing to Earth at high velocity could kill millions; the shock wave might flatten fifty square miles. So no one was allowed up in a spaceship of any kind without a flight ticket—and you had to work to win your ticket. It came through, finally, in June of 3879, a month after Alan's twentieth birthday. By that time he had computed and recomputed his orbit to Venus a hundred different times.

Three years had gone by since he last had been aboard a spaceship, and that had been the Valhalla. His childhood and adolescence now seemed like a hazy dream to him, far in the back of his mind. The Valhalla, with his father and Steve and all the friends of his youth aboard, was three years out from Earth—with seven years yet to go be-

fore it reached Procyon, its destination.

Of course, the Crew had experienced only about four weeks, thanks to the Fitzgerald Contraction. To the Valhalla people only a month had passed since Alan had left them, while he had gone through three years.

He had grown up, in those three years. He knew where he was heading, now, and nothing frightened him. He understood people. And he had one great goal which was coming closer and closer with each passing month.

Blastoff day was the fifth of September, 3879. The orbit Alan finally settled on was a six-day trip at low acceleration across the 40,000,000-odd miles that separated Earth from Venus.

At the spaceport he handed in his flight ticket for approval, placed a copy of his intended orbit on file with Central Routing Registration, and got his field clearance.

The ground crew had already been notified that Alan's ship was blasting off that day, and they were busy now putting her in final departure condition. There were some expressions of shock as Alan displayed his credentials to the ground chief and climbed upward into the control chamber of the ship he had named the James Hudson Cavour, but no one dared question him.

His eyes caressed the gleaming furnishings of the control panel. He checked with the central tower, was told how long till his blastoff clearance, and rapidly surveyed the fuel meters, the steering-jet response valves, the automatic pilot. He worked out a tape with his orbit on it. Now he inserted it into the receiving tray of the autopilot and tripped a lever. The tape slid into the computer, clicking softly and emitting a pleasant hum.

"Eight minutes to blastoff," came the warning.

Never had eight minutes passed so slowly. Alan snapped on his viewscreen and looked down at the field; the ground crew men were busily clearing the area as blastoff time approached.

"One minute to blastoff, Pilot Donnell." Then the count-down began, second by second.

At the ten-seconds-to-go announcement, Alan activated the autopilot and nudged the button that transformed his seat into a protective acceleration cradle. His seat dropped down, and Alan found himself stretched out, swinging gently back and forth in the protecting hammock. The voice from the control tower droned out the remaining seconds. Tensely Alan waited for the sharp blow of acceleration.

Then the roaring came, and the ship jolted from side to side, struggled with gravity for a moment, and then sprang up free from the Earth.

Some time later came the sudden thunderous silence as the jets cut out; there was the dizzying moment of free fall, followed by the sound of the lateral jets imparting longitudinal spin to the small ship. Artificial gravity took over. It had been a perfect takeoff. Now there was nothing to do but wait for Venus to draw near. The days trickled past. Alan experienced alternating moods of

gloom and exultation. In the gloomy moods he told himself that this trip to Venus was a fool's errand, that it would be just another dead end, that Cavour had been a paranoid madman and the hyperspace drive was an idiot's dream.

But in the moments of joy he pictured the finding of Cavour's ship, the building of a fleet of hyperdrive vessels. The distant stars within almost instantaneous reach! He would tour the galaxies as he had two years ago toured Earth. Canopus and Deneb, Rigel and Procyon, he would visit them all. From star to bright star, from one end of the universe to the other.

The shining oval of Venus grew brighter and brighter. The cloud layer that enveloped Earth's sister planet swirled and twisted.

Venus was virtually an unknown world. Earth colonies had been established on Mars and on Pluto, but Venus, with her harsh formaldehyde atmosphere, had been ignored. Uninhabited, uninhabitable, the planet was unsuitable for colonization.

The ship swung down into the cloud layer; floating wisps of gray vapor streamed past the orbiting Cavour. Finally Alan broke through, navigating now on manual, following as best he could Cavour's old computations. He guided the craft into a wide-ranging spiral orbit three thousand feet above the surface of Venus, and adjusted his viewscreens for fine pickup.

He was orbiting over a vast dust-blown plain. The sky was a fantastic color, mottled blues and greens and an all-pervading pink, and the air was dull gray. No sun at all penetrated the heavy shroud of vapor that hung round the planet.

For five hours he scouted the plain, hoping to find some sign of Cavour's habitation. It was hopeless, he told himself; in thirteen hundred years the bitter winds of Venus would have destroyed any hint of Cavour's site, assuming the old man had reached Venus successfully.

But grimly Alan continued to circle the area. Maybe Cavour had been forced to land elsewhere, he thought. Maybe he never got here. There were a million maybes.

He computed his orbit and locked the ship in. Eyes pressed to the viewscreen, he peered downward, hoping against hope.

This trip to Venus had been a wild gamble from the start. He wondered if Max Hawkes would have covered a bet on the success of his trip. Max had been infallible when it came to hunches.

Well, Alan thought, now I've got a hunch. Help me one more time, Max, wherever you are! Lend me some of your luck. I need it, Max.

He circled once more. The Venusian day would last for three weeks more; there was no fear of darkness. But would he find anything?

What's that?

He leaped to the controls, switched off the autopilot, and broke out of orbit, going back for a return look. Had there been just the faintest metallic glint below, as of a spaceship jutting up from the

sand?

Yes.

There was a ship down there, and a cave of some sort. Alan felt strangely calm. With confident fingers he punched out a landing orbit, and brought his ship down in the middle of the barren Venusian desert.

Alan brought the Cavour down less than a mile away from the scene of the wreckage—it was the best he could do, computing the landing by guesswork—and climbed into his spacesuit. He passed through the airlock and out into the windswept desert.

He felt just a little light headed; the gravity was only 0.8 of Earth-norm, and besides that the air in his spacesuit, being perpetually renewed by the Bennerman re-breathing generator strapped to his back, was just a shade too rich in oxygen.

In the back of his mind he realized he ought to adjust his oxygen flow, but before he brought himself to make the adjustment the surplus took its effect. He began to hum, then to dance awkwardly over the sand. A moment later he was singing a wild space ballad that he thought he had forgotten years before. After ten feet he tripped and went sprawling down in the sand. He lay there, trickling the violet sands through the gloves of his spacesuit, feeling very light headed and very foolish all at the same time.

But he was still sober enough to realize he was in danger. It was an effort to reach over his shoulder and move the oxygen gauge back a notch. After a moment the flow levelled out and he felt his head beginning to clear.

He was marching through a fantastic baroque desert. Venus was a riot of colors, all in a minor key: muted greens and reds, an overbearing gray, a strange, ghostly blue. The sky, or rather the cloud layer, dominated the atmosphere with its weird pinkness. It was a silent world—a dead world.

In the distance he saw the wreckage of the ship; beyond it the land began to rise, sloping imperceptibly up into a gentle hill with bizarre sculptured rock outcroppings here and there. He walked quickly.

Fifteen minutes later he reached the ship. It stood upright—or rather, its skeleton did. The ship had not crashed. It had simply rotted away, the metal of its hide eaten by the sand-laden winds over the course of centuries. Nothing remained but a bare framework.

He circled the ship, then entered the cave a hundred feet away. He snapped on his lightbeam. In the darkness, he saw——

A huddled skeleton, far to the rear of the cave. A pile of corroded equipment; atmosphere generators, other tools now shapeless.

Cavour had reached Venus safely. But he had never departed.

To his astonishment Alan found a sturdy volume lying under the pile of bones—a book, wrapped in metal plates. Somehow it had withstood the passage of centuries, here in this quiet cave.

Gently he unwrapped the book. The

cover dropped off at his touch; he turned back the first three pages, which were blank. On the fourth, written in the now-familiar crabbed hand, were the words: The Journal of James Hudson Cavour. Volume 17—October 20, 2570——

He had plenty of time, during the six-day return journey, to read and reread Cavour's final words and to make photographic copies of the withered old pages.

The trip to Venus had been easy for old Cavour; he had landed precisely on schedule, and established housekeeping for himself in the cave. But, as his diary detailed it, he felt strength ebbing away with each passing day.

He was past eighty, no age for a man to come alone to a strange planet. There remained just minor finishing to be done on his pioneering ship—but he did not have the strength to do the work. Climbing the catwalk of the ship, soldering, testing—now, with his opportunity before him, he could not attain his goal.

He made several feeble attempts to finish the job, and on the last of them fell from his crude rigging and fractured his hip. He had managed to crawl back inside the cave, but, alone, with no one to tend him, he knew he had nothing to hope for.

It was impossible for him to complete his ship. All his dreams were ended. His equations and his blueprints would die with him.

In his last day he came to a new realization: nowhere had he left a complete record of the mechanics of his spacewarp generator, the key mechanism without which hyperspace drive was unattainable. So, racing against encroaching death, James Hudson Cavour turned to a new page in his diary, headed it, in firm, forceful letters, For Those Who Follow After, and inked in a clear and concise explanation of his work.

It was all there, Alan thought exultantly: the diagrams, the specifications, the equations. It would be possible to build the ship from Cavour's notes.

The final page of the diary had evidently been Cavour's dying thoughts. In a handwriting increasingly ragged and untidy, Cavour had indited a paragraph forgiving the world for its scorn, hoping that some day mankind would indeed have easy access to the stars. The paragraph ended in midsentence. It was, thought Alan, a moving testament from a great human being.

The days went by, and the green disk of Earth appeared in the viewscreen. Late on the sixth day the Cavour sliced into Earth's atmosphere, and Alan threw it into the landing orbit he had computed that afternoon. The ship swung in great spirals around Earth, drawing ever closer, and finally began to home in on the spaceport.

Alan busied himself over the radio transmitter, getting landing clearance. He brought the ship down easily, checked out, and hurried to the nearest phone.

He dialed Jesperson's number. The lawyer answered.

"When did you get back?"

"Just now," Alan said. "Just this minute."

"Well? Did you——"

"Yes! I found it! I found it!"

Oddly enough, he was in no hurry to leave Earth now. He was in possession of Cavour's notes, but he wanted to do a perfect job of reproducing them, of converting the scribbled notations into a ship.

To his great despair he discovered, when he first examined the Cavour notebook in detail, that much of the math was beyond his depth. That was only a temporary obstacle, though. He hired mathematicians. He hired physicists. He hired engineers.

Through it all, he remained calm; impatient, perhaps, but not overly so. The time had not yet come for him to leave Earth. All his striving would be dashed if he left too soon.

The proud building rose a hundred miles from York City: The Hawkes Memorial Laboratory. There, the team of scientists Alan had gathered worked long and painstakingly, trying to reconstruct what old Cavour had written, experimenting, testing.

Early in 3881 the first experimental Cavour Generator was completed in the lab. Alan had been vacationing in Africa, but he was called back hurriedly by his lab director to supervise the testing.

The generator was housed in a sturdy windowless building far from the main labs; the forces being channelled were potent ones, and no chances were being taken. Alan himself threw the switch that first turned the spacewarp generator on, and the entire research team gathered by the closed-circuit video pickup to watch.

The generator seemed to blur, to waver, to lose substance and become unreal. It vanished.

It remained gone fifteen seconds, while a hundred researchers held their breaths. Then it returned. It shorted half the power lines in the county.

But Alan was grinning as the auxiliary feeders turned the lights in the lab on again. "Okay," he yelled. "It's a start, isn't it? We got the generator to vanish, and that's the toughest part of the battle. Let's get going on Model Number Two."

By the end of the year, Model Number Two was complete, and the tests this time were held under more carefully controlled circumstances. Again success was only partial, but again Alan was not disappointed. He had worked out his timetable well. Premature success might only make matters more difficult for him.

3882 went by, and 3883. He was in his early twenties, now, a tall, powerful figure, widely known all over Earth. With Jesperson's shrewd aid he had pyramided Max's original million credits into an imposing fortune—and much of it was being diverted to hyperspace research. But Alan Donnell was not the figure of scorn James Hudson Cavour had been; no one laughed at him when he said that by 3885 hyperspace travel would be reality.

3884 slipped past. Now the time was drawing near. Alan spent virtually all his

hours at the research center, aiding in the successive tests.

On March 11, 3885, the final test was accomplished satisfactorily. Alan's ship, the Cavour, had been completely remodeled to accommodate the new drive; every test but one had been completed.

The final test was that of actual performance. And here, despite the advice of his friends, Alan insisted that he would have to be the man who took the Cavour on her first journey to the stars.

Nine years had passed, almost to the week, since a brash youngster named Alan Donnell had crossed the bridge from the Spacer's Enclave and hesitantly entered the bewildering complexity of York City. Nine years.

He was twenty-six now, no boy any more. He was the same age Steve had been, when he had been dragged unconscious to the Valhalla and taken aboard.

And the Valhalla was still bound on its long journey to Procyon. Nine years had passed, but yet another remained before the giant starship would touch down on a planet of Procyon's. But the Fitzgerald Contraction had telescoped those nine years into just a few months, for the people of the Valhalla.

Steve Donnell was still twenty-six.

And now Alan had caught him. The Contraction had evened out. They were twins again.

And the Cavour was ready to make its leap into hyperspace.

It was not difficult for Alan to get the route of the Valhalla, which had been recorded at Central Routing Registration. Every starship was required by law to register a detailed route-chart before leaving, and these charts were filed at the central bureau. The reason was simple: a starship with a crippled drive was a deadly object. In case a starship's drive conked out, it would keep drifting along toward its destination, utterly helpless to turn, maneuver, or control its motion. And if any planets or suns happened to lie in its direct path——

The only way a ship could alter its trajectory was to cut speed completely, and with the drive dead there would be no way of picking it up again. The ship would continue to drift slowly out to the stars, while its crew died of old age.

So the routes were registered, and in the event of drive trouble it was thus possible for a rescue ship to locate the imperilled starship. Space is immense, and only with a carefully registered route could a ship be found.

Starship routes were restricted information. But Alan had influence; he was easily able to persuade the Routing Registration people that his intentions were honorable, that he planned to overtake the Valhalla if they would only let him have the coordinates. A bit of minor legal jugglery was all that was needed to give him access to the data.

It seemed there was an ancient regulation that said any member of a starship's crew was entitled by law to examine his ship's registered route, if he wanted to. The rule was intended to apply to starmen who distrusted their captains and were fearful of being

shipped off to some impossibly distant point; it said nothing at all about starmen who had been left behind and were planning to overtake their ships. But nothing prohibited Alan from getting the coordinates, and so they gave them to him.

The Cavour was ready for the departure. Alan elbowed his way through the crowd of curious onlookers and clambered into the redesigned control chamber.

He paused a moment, running his fingers over the shiny instrument panel with its new dials, strange levers, unfamiliar instruments. Overdrive Compensator. Fuel Transmuter. Distortion Guide. Bender Index. Strange new names, but Alan realized they would be part of the vocabulary of all future spacemen.

He began to work with the new controls, plotting his coordinates with extreme care and checking them through six or seven times. At last he was satisfied; he had computed a hyperdrive course that would loop him through space and bring him out in only a few days' time in the general vicinity of the Valhalla, which was buzzing serenely along at near the speed of light.

That was practically a snail's pace, compared with hyperdrive.

The time for the test had come. He spoke briefly with his friends and assistants in the control tower; then he checked his figures through one last time and requested blastoff clearance.

A moment later the countdown began, and he began setting up for departure.

A tremor of anticipation shot through him as he prepared to blast off on the first hyperdrive voyage ever made. He was stepping out into the unknown, making the first use ever of a strange, perhaps dangerous means of travel. The drive would loop him out of the space-time continuum, into—where?—and back again.

He hoped. He punched down the keys, and sat back to wait for the automatic pilot to carry him out from Earth.

Somewhere past the orbit of the moon, a gong told him that the Cavour drive was about to come into play. He held his breath. He felt a twisting sensation. He stared at the viewscreen.

The stars had vanished. Earth, with all its memories of the last nine years, was gone, taking with it Hawkes, Jesperson, York City, the Enclaves—everything.

He floated in a featureless dull gray void, without stars, without worlds. So this is hyperspace, he thought. He felt tired, and he felt tense. He had reached hyperspace; that was half the struggle. It remained to see whether he would come out where he expected to come out, or whether he would come out at all.

Four days of boredom. Four days of wishing that the time would come to leave hyperspace. And then the automatic pilot came to life; the Cavour generator thrummed and signalled that it had done its work and was shutting down. Alan held his breath.

He felt the twisting sensation. The Cavour was leaving hyperdrive.

Stars burst suddenly against the blackness of space; the viewscreen brightened. Alan shut his eyes a moment as he readjusted from the sight of the gray void to that of the starry reaches of normal space. He had returned.

And, below him, making its leisurely journey to Procyon, was the great golden-hulled bulk of the Valhalla, gleaming faintly in the black night of space.

He reached for the controls of his ship radio. Minutes later, he heard a familiar voice— that of Chip Collier, the Valhalla's Chief Signal Officer.

"Starship Valhalla picking up. We read you. Who is calling, please?"

Alan smiled. "This is Alan Donnell, Chip. How goes everything?"

For a moment nothing came through the phones but astonished sputtering. Finally Collier said thickly, "Alan? What sort of gag is this? Where are you?"

"Believe it or not, I'm hovering right above you in a small ship. Suppose you get my father on the wire, and we can discuss how I'll go about boarding you."

Fifteen minutes later the Cavour was grappled securely to the skin of the Valhalla like a flea riding an elephant, and Alan was climbing in through the main airlock. It felt good to be aboard the big ship once again, after all these years.

He shucked his spacesuit and stepped into the corridor. His father was standing there waiting for him.

"Hello, Dad."

Captain Donnell shook his head uncomprehendingly. "Alan—how did you—I mean— and you're so much older, too! I——"

"The Cavour Drive, Dad. I've had plenty of time to develop it. Nine good long years, back on Earth. And for you it's only a couple of months since you blasted off!"

Another figure appeared in the corridor. Steve. He looked good; the last few months aboard the Valhalla had done their work. The unhealthy fat he had been carrying was gone; his eyes were bright and clear, his shoulders square. It was like looking into a mirror to see him, Alan thought. It hadn't been this way for a long time.

"Alan? How did you——"

Quickly Alan explained. "So I couldn't reverse time," he finished. "I couldn't make you as young as I was—so I took the opposite tack and made myself as old as you were." He looked at his father. "The universe is going to change, now. Earth won't be so overcrowded. And it means the end of the Enclave system, and the Fitzgerald Contraction."

"We'll have to convert the Valhalla to the new drive," Captain Donnell said. He looked still stunned by Alan's sudden appearance. "Otherwise we'll never be able to meet the competition of the new ships. There will be new ships, won't there?"

"As soon as I return to Earth and tell them I've been successful. My men are ready to go into immediate production of hyperspace vessels. The universe is going to be full of them even before

your ship reaches Procyon!" He sensed now the full importance of what he had done. "Now that there's practical transportation between stars, the Galaxy will grow close together—as close as the Solar System is now!"

Captain Donnell nodded. "And what are you planning to do, now that you've dug up the Cavour drive?"

"Me?" Alan took a deep breath. "I've got my own ship, Dad. And out there are Rigel and Deneb and Fomalhaut and a lot of other places I want to see." He was speaking quietly, calmly, but with an undercurrent of inner excitement. He had dreamed of this day for nine years.

"I'm going to take a grand tour of the universe, Dad. Everywhere. The hyperdrive can take me. But there's just one thing——"

"What's that?" Steve and the Captain said virtually in the same moment.

"I've been practically alone for the last nine years. I don't want to make this trip by myself. I'm looking for a companion. A fellow explorer."

He stared squarely at Steve.

A slow grin spread over his brother's face. "You devil," Steve said. "You've planned this too well. How could I possibly turn you down?"

"Do you want to?" Alan asked.

Steve chuckled. "Do you think I do?"

Alan felt something twitching at his cuff. He looked down and saw a bluish-purple ball of fur sitting next to his shoe, studying him with a wry expression.

"Rat!"

"Of course. Is there room for a third passenger on this jaunt of yours?"

"Application accepted," Alan said. Warmth spread over him. The long quest was over. He was back among the people he loved, and the galaxy was opening wide before him. A sky full of bright stars, growing brighter and closer by the moment, was beckoning to him.

He saw the Crewmen coming from their posts now; the rumor had flitted rapidly around the ship, it seemed. They were all there, Art Kandin and Dan Kelleher and a gaping Judy Collier and Roger Bond and all the rest of them.

"You won't be leaving right away, will you?" the Captain asked. "You can stay with us a while, just to see if you remember the place?"

"Of course I will, Dad. There's no hurry now. But I'll have to go back to Earth first and let them know I've succeeded, so they can start production. And then——"

"Deneb first," Steve said. "From there out to Spica, and Altair——"

Grinning, Alan said, "More worlds are waiting than we can see in ten lifetimes, Steve. But we'll give it a good try. We'll get out there."

A multitude of stars thronged the sky. He and Steve and Rat, together at last—plunging from star to star, going everywhere, seeing everything. The little craft grappled to the Valhalla would be the magic wand that put the universe in their hands.

In this moment of happiness he frowned an instant, thinking of a lean,

pleasantly ugly man who had befriended him and who had died nine years ago. This had been Max Hawkes' ambition, to see the stars. But Max had never had the chance.

We'll do it for you, Max. Steve and I.

He looked at Steve. He and his brother had so much to talk about. They would have to get to know each other all over again, after the years that had gone by.

"You know," Steve said, "When I woke up aboard the Valhalla and found out you'd shanghaied me, I was madder than a hornet. I wanted to break you apart. But you were too far away."

"You've got your chance now," Alan said.

"Yeah. But now I don't want to," Steve laughed.

Alan punched him goodnaturedly. He felt good about life. He had found Steve again, and he had given the universe the faster-than-light drive. It didn't take much more than that to make a man happy.

And now a new and longer quest was beginning for Alan and his brother. A quest that could have no end, a quest that would send them searching from world to world, out among the bright infinity of suns that lay waiting for them.